COURSE UNIT DESCRIPTION

Course unit title	Code
Wildlife resource management	

Annotation
The course is for postgraduate students. After completing this course, he acquired competencies by: arguing to share information with stakeholders in various education about the state and conservation of biological resources; purposeful and independent learning, updating knowledge and professional skills, critically reflecting the information received and adapting to the ongoing professional environment; Leverage the practical results of international research to address the complex, multidimensional challenges to the sustainability of biological resources posed by global change and to provide assessments based on the knowledge of ecological science, both in unfamiliar environments and in emerging situations; integrated up-to-date ecological knowledge of nature and processes and advanced research methods in urban areas, adopting arguments for integrated solutions to ensure the protection of biological resources, tourism fragments or limited information and awareness and social responsibility. To acquire these competencies, interactive lectures will be given, independent analysis of literature, each scientific article in a foreign language will be promoted, reports will be prepared and read, discussions, debates, modeling of real life situations, special software packages, implementation reflection, field research, case studies, work groups.

Lecturer(s)	Department, Faculty
Coordinating: Lect. Dr. Martynas Kazlauskas **Other: Doc. Dr. Algirdas Kaupinis**	Šiauliai Academy

Study cycle	Type of the course unit
Second cycle studies	Compulsor

Mode of delivery	Semester or period when it is delivered	Language of instruction
Blended learning	Autumn semester	Lithuanian

Requisites	
Prerequisites: English and computer skills.	**Co-requisites (if relevant): -**

Number of ECTS credits allocated	Student's workload (total)	Contact hours	Individual work
10	280	70	210

Purpose of the course unit: programme competences to be developed
To help students to develop the abilities to make the latest scientific knowledge-based and socially responsible decisions to ensure the protection of wildlife resources, to communicate them persuasively to any audience. Competences to be developed: 1) to share argument based information with stakeholders of various backgrounds on the state and conservation of biological resources, 2) to learn purposeful and independent, updating knowledge and professional skills, critically reflecting information and adapting it to the ever-changing professional environment 3) using results of international research and practice in addressing the complex, multidimensional challenges to the sustainability of biological resources posed by global change and providing assessments based on knowledge of ecology science, both in unfamiliar environments and new situations; 4) integrate the latest ecological knowledge of processes prevailing in natural and anthropogenized environments and advanced research while making reasoned integrated solutions for the protection of biological resources, having only fragmented or limited information and awareness of ethical and social responsibility.

Learning outcomes of the course unit	Teaching and learning methods	Assessment methods
– To promote students' ability to share information with stakeholders of various educations about the state and protection of biological resources, to make creative decisions about the sustainable use of biological resources.	Interactive lecture, analysis of literature, analysis of a scientific article, preparation of a report, debate, discussion.	Essay, illustrated oral presentation
– To promote the formation of students' skills through purposeful and independent learning, updating knowledge and professional skills, critically reflecting on the obtained information and adapting to the ever-changing professional environment.	Interactive lecture, modeling of real life situations, discussion, practical tasks, application of special software packages, reflection on activities.	Portfolio, exam
– To develop students' competence, to use the results of international research or practice, to solve complex, multidimensional problems of sustainability of biological resources caused by global change and to provide assessments based on the knowledge of ecological science, both in unfamiliar environments and in new situations.	Literature analysis, field research, case study, individual tasks.	Written work, peer evaluation.
– To help students to integrate the latest ecological knowledge about the processes taking place in nature and urban areas and the most advanced research methods, making reasoned complex decisions ensuring the protection of biological resources, having fragmentary or limited information and understanding ethical and social responsibility.	Interactive lecture, literature analysis, problem-based teaching, case study, discussion, work in groups.	Group homework, exam.

Course content: breakdown of the topics	Contact hours							Individual work: time and assignments	
	Lectures (blended learning)	Tutorials	Seminars	Workshops	Laboratory work	Internship/work placement	Contact hours, total	Individual work	Assignments
1.Concepts and developments of wildlife management	1						1	2	Analysis of literature (September).
1.1.Values and management of wildlife components of variuus ecosystems in different cultures								4	Analysis of literature (September).
1.2. Factors determining the availability and exploitation of wildlife resources								2	Analysis of literature (September).
2. Accounting and monitoring of wildlife and fish resources	1		4				5	8	Problem-based training, literature analysis, field research assignment as an integral part of the group work (September).
2.1.Methods of population ecology and their application to record population parameters	2						2	6	Porfolio, literary analysis (September).
2.2. The relationship between the exploitation of wildlife and the state of populations and the cycles of population development				6			6	12	Analysis of the scientific article, practical tasks, portfolio, application of special software packages, reflection of activities (September).

2.3. Software packages for population development assessment				6			6	6	Porfolio, modeling of real-life situations, literary analysis (September).
3. Trophic relations and functional diversity in aquatic ecosystems	1						1	18	Analysis of literature (September).
4. Fisheries management	1		2				3	12	Case study, literature analysis (October).
4.1. Assessment of fish communities and stocks	1			2			3	8	Portfolio, literary analysis (October).
4.1.1. Fish population ecology	1			2			3	12	Analysis of a scientific article, analysis of literature (October).
4.1.1.1. Features of fish biology	1		2				3	8	Analysis of literature (October).
4.1.1.2. Fish growth and mortality, population abundance	1			4			5	6	Portfolio, modeling of real-life situations, analysis of literature (October).
4.1.2. Computer programs for the assessment of fish stocks				6			6	8	Application of special software packages, Porfolio, literary analysis (November).
5. Assessment of the ecological status of water bodies	1		2				3	12	Oral illustrated report, literary analysis (November).
6. Ways of exploiting resources in terrestrial ecosystems, analysis of their regulation and consequences								8	Peer review, literary analysis, writing work, (November).
6.1. Nature photography, camping, extreme sports in nature								8	Portfolio, literary analysis, analysis of a scientific article (November).
6.2. Grazing and soil use	1						1	2	Literary Analysis (November).
6.3. Hunting, its object, ways and seasons	1						1	4	Portfolio, literary analysis (November).
6.4. Problems caused by habitat destruction and fragmentation	1						1	8	Literary analysis, analysis of a scientific article, porfolio (November).
7. The need and ways to protect wildlife resources	1		2	4			7	4	Literary analysis (November).
7.1. Protection of endangered species populations								4	Individual homework, porfolio, literary analysis (November).
7.2. Threats of pests and biological invasions to wildlife resources	1			2			3	12	Work in groups, literature analysis, preparation for discussion (December).
7.3. Management of damage caused by wild animals								10	Essay, literary analysis (December).
8. Wildlife protection policy and legal regulation			2				2	12	Preparation of the presentation, literature analysis (December).
9. Assessment and involvement of interest groups and the general public in decision-making	2		2	4			8	14	Analysis of the scientific article, application of special software packages, porfolio (December).
Total	**18**	**0**	**16**	**36**	**0**	**0**	**70**	**210**	

Assessment strategy	Weight %	Deadline	Assessment criteria
Essay	10	December	The following aspects of the work are assessed: Structure and scope of the work: the structure of the essay is clear and the logical scope is appropriate (2 points). Argumentation: clearly argued on the basis of scientific facts (4 points); Conclusions: substantiated, formulated on the basis of critical thinking based on scientific knowledge and real events in society (2 points).

			Scientific style and research culture: sources and citations are treated appropriately; formulations and style meet the requirements of scientific work (2 points). Assessment without written work - 0 points.
Illustrated oral presentation	5 (2 pcs.)	November, December	The following aspects of the report are assessed: Structure and scope of the report: the structure of the report is clear and logical, contains all the necessary parts (introduction, where the topic, goals, objectives, problem; presentation of the report, analysis and interpretation of empirical material; conclusions), the report is of appropriate duration, (2 points); Analysis and conclusions: the analysis is very detailed, the conclusions are substantiated, formulated on the basis of empirical material (6 points); if the analysis is performed but not complete, the conclusions are not always substantiated, 1 point is awarded, no points are awarded for a superficial analysis. Scientific speaking style and research culture: the appropriate vocabulary is used during the presentation to properly select and interpret sources; the wording and style meet the requirements of the scientific report (2 points). Evaluation without delivery of the report - 0 points.
Group homework	15	November	The following aspects of the work are assessed: Structure and scope of the work: the structure is clear and logical, there are all the necessary parts (introduction, where the topic, goals, objectives, methods, empirical material; presentation, where the analysis and interpretation of empirical material is presented; conclusions), the work is of appropriate scope, distribution of functions is clear among team members (2 points); Analysis, conclusions and recommendations: the analysis is very detailed, the conclusions are substantiated, formulated on the basis of empirical material (6 points); if the analysis is performed but not complete, the conclusions are not always substantiated, 3 points are awarded, no points are awarded for a superficial analysis. Scientific style and research culture: sources and citations are treated appropriately; formulations and style meet the requirements of scientific work (2 points). Assessment without written work - 0 points.
Written work	10	November	The following aspects of the work are assessed: Structure and scope of the work: the structure of the written work is clear and logical, there are all the necessary parts (introduction, where the topic, goals, objectives, methods, empirical material; presentation, where the analysis and interpretation of empirical material is presented; conclusions), the work is of appropriate scope (2 points); Analysis and conclusions: the analysis is very detailed, the conclusions are substantiated, formulated on the basis of empirical material (6 points); if the analysis is performed but not complete, the conclusions are not always substantiated, 3 points are awarded, no points are awarded for a superficial analysis. Scientific style and research culture: sources and citations are treated appropriately; formulations and style meet the requirements of scientific work (2 points). Assessment without written work - 0 points.
Peer review	5	November	The student evaluates the work of another student according to the evaluation criteria of the written work (above).
Portfolio	25	December	Each work in the portfolio is evaluated separately, then the average of work settlements is kept. 9-10 points: all tasks are done correctly, the work is neat, without spelling mistakes. The explanations are smooth and clear. The student uses scientific terminology related to the task of the day. 7-8 points: all tasks have been done correctly, the work is quite tidy. The explanations are clear. The student uses scientific terminology related to the task of the day. 5-6 points: Most tasks completed correctly, the student can explain the decisions.

			0-4 points The work was not done or only less than half of the tasks were done correctly. The student does not explain or has difficulty explaining the results.
Exam	25	January	The test consists of 30 open-ended and closed-ended questions (of varying difficulty, from comprehension to assessment), each assessed with one point. The number of correct answers is scored by multiplying by 1/3 and rounding.

Author	Publishing year	Title	Issue of a periodical or volume of a publication; pages	Publishing house or internet site
Required reading				
Krebs C. J.	2001	Ecology: The experimental analysis of distribution and abundance	Fifth edition	San Francisco „Benjamin Cummings“
Lekevičius E.	2013	Ekologija: nuo individo iki biosferos. Vilniaus universitetas.	-	Vilnius, „VU leidykla“.
Recommended reading				
Sinclair A.R.E., Fryxell J.M., Caughley G.	2006	Wildlife ecology - conservation and management	Second edition	„Wiley-Blackwell“
Balčiauskas L.	2004	Sausumos ekosistemų tyrimo metodai	Part one	Vilnius, „VU leidykla“
Marozas V.	2008	Sausumos ekosistemų įvairovė ir apsauga.	-	http://vhost.asu.lt/nm/l-projektas/sausumoseko.pdf
Leopold, A.	1987	Smėlio grafystės kalendorius.	-	Vilnius, „Mokslas“
Balčiauskas, L., Kazlauskas, M., Balčiauskienė, L.	2017	European bison: changes in species acceptance following plans for translocation	European Journal of Wildlife Research 63(1)	VU databases.
Gudžinskas Z., Kazlauskas M.	2022	The first record of Heracleum mantegazzianum Sommier & Levier (Apiaceae) in Lithuania		https://www.reabic.net/journals/bir/2022/Accepted/BIR_2022_Gudzinskas_Kazlauskas_correctedproof.pdf