ANGOL NYELVŰ

COURSE DESCRIPTION

Tutle:	*Big Game Management*
Course code:	SDI….
Number of hours per week:	*2 (26 hrs)*
Credit:	*8*
Program:	*PhD*
Type	*Full-time/part-time*
Requirement:	*n/a*
Semester	*fall*
Language:	*Hungarian/English*
Prerequirement	*n/a*
Oktató Intézet/tanszék(ek):	*MATE VTI Department of Wildlife Biology and Management*
Course Leader	*Dr. Sándor Csányi, PhD (CSc)*

Course Description: The course analyzes the **relationship between big game, habitat, and human dimensions** using the "three-legged stool" model. Students learn about the **biological characteristics and ecological needs of big game** species. **Population dynamics and the density dependence** play a prominent role. The curriculum presents the **cyclical decision-making systems** of integrated and adaptive big game management.

Course Objective: The aim of the course is to teach students an **objective approach to population management based on bioindicators**. It is important to understand **species-specific management strategies** and the physiological basis of trophy development. Students will learn to strike a **balance between sustainable harvesting and wildlife damage management.** The course prepares students to make **scientifically grounded and ethical professional decisions** that adapt to a changing environment.

Syllabus

1. Basic concepts and the big game management system
2. The status of large game species in Europe and Hungary
3. Population dynamics and density dependence
4. Data collection and population monitoring
5. Population survey and estimation methods
6. Bioindicators and ecoindicators
7. Antler biology, genetics, and selection
8. Red deer management
9. Fallow deer management
10. Roe deer management
11. Mouflon management
12. Wild boar management
13. Adaptive big game management

Grading: Students are required to independently study the course material using Google Gemini and NotebookLM AI, supplemented by sources published in major languages related to each chapter. They must prepare a case study on a selected topic using Scopus.AI. The processing of the course material and the case study will be assessed using Google NotebookLM.

Notes, textbooks, recommended reading:

- **The curriculum will be available on Google Classroom:**
  - Textbook and presentation materials

○ Foreign-language resources related to the curriculum

COURSE DESCRIPTION

Title:	*Didactic seminar for Wildlife Biologists*
Neptun code:	SDI….
Lectures/Practices:	*2*
Credit:	*6*
Program:	*PhD*
Type:	*full time/part time*
Requirements:	*exam*
Semester:	*spring/autumn*
Language:	*English*
Pre-requirements:	*none*
Institute/Department:	*MATE Institute for Wildlife Management and Nature Conservation*
Course leader:	*Dr. Mihály Márton PhD*

Description: Within the framework of the subject, students can become familiar with the theoretical basics and practice of university teaching. They can also learn and practice different teaching methods in Wildlife biology environment and in real, practical situations. In addition to the above, the subject also includes the administrative tasks of education, including the introduction of important documents for educational planning and the management of digital platforms.

Aims: Students will gain a comprehensive understanding of university teaching. They will gain experience in teaching and managing digital platforms. They will also gain a wealth of knowledge in educational methodology that they can later use in their teaching work.

Syllabus:

- theoretical part:
  1. The concept, subject, relationship of didactics with other scientific fields
  2. Planning of education (Study and Examination Regulations, curriculum, tematics)
  3. The digital environment of teaching work (e-learning, Neptun)
  4. Understanding student learning, supporting learning, participant-centeredness
  5. Activation methods applicable in higher education
  6. Group work. Cooperative learning organization. Project method
  7. Effective student presentation
  8. Interactive methods in an online environment
  9. Principles of student assessment, knowledge level tests, exams
- practical part:
  1. Observation (a total of 8x45 minutes, but at least two separate sessions)
  2. Teaching (a total of 4x45 minutes, but at least two separate sessions)

Grading: Personal appearance at the course and completion of the exam teaching. The exam teaching is evaluated by scoring based on the valid study and examination regulations. In the event of unsuccessful exam teaching, students may retake the exam according to the conditions of the study and examination regulations. Offered grade can be obtained based on the teaching practices.

References:

- course materials (available on the e-learning course created for the subject)

COURSE DESCRIPTION

Tutle:	*Ethology and Behavioural Ecology*
Course code:	SDI….
Number of hours per week:	*2 (26 hrs)*
Credit:	*8*
Program:	*PhD*
Type	*Full-time/part-time*
Requirement:	*compulsory elective subject*
Semester	*Autumn*
Language:	*Hungarian/English*
Prerequirement	*n/a*
Oktató Intézet/tanszék(ek):	*MATE VTI Department of Wildlife Biology and Management*
Course Leader	*Dr. Krisztián Katona, PhD*

Course Description: This course makes an overview how different wildlife species behave in their natural or human-altered environments. We explain the genetic, neural or hormonal background of the shown behavioural patterns. We consider the instinct and learned behavioural strategies and their possible adaptation values in helping survival in specific habitats and conditions. We overview the optimal decisions of animals in foraging, reproductive or movement behaviours. All these topics will be related to the actual doctoral topic of the students.

Course Objective: The aim of this course is to demonstrate how we influence the natural behaviour of wild animals by altering their habitats and environments, and by managing their populations (through feeding, hunting, etc.). We will review what options and opportunities we have in various situations to shape animal behaviour in a direction that is more favourable for both us and the animals, as well as what problems we can effectively address and through what interventions.

Syllabus

1. The evolution of animal behaviour
2. The regulation of behaviour
3. Inherited and learned behaviours
4. Optimal foraging strategies
5. Reproductive strategies
6. Ranging and territorial strategies
7. Animal communication
8. The impact of human activities on animal behaviour, managing animal behaviour
9. Research methods in ethology and behavioral ecology

Grading:

Students must submit their work in accordance with the different assignment types. This may be: a) a prepared manuscript in Hungarian or English based on a1) a systematic literature review; or a2) an independently conducted field study; or b) a written report and/or a detailed oral presentation on a specific topic. In the case of the manuscript assignment, students receive ongoing support throughout the semester. Students receive their grades based on the work they submit and their participation throughout the semester.

Notes, textbooks, recommended reading:

- **The curriculum will be available on e-learning:**
  - Textbook and presentation materials
  - Foreign-language resources related to the curriculum

COURSE DESCRIPTION

Tutle:	*Fundamentals of Wildlife Biology*
Course code:	SDI….
Number of hours per week:	*2 (28 hrs)*
Credit:	*8*
Program:	*PhD*
Type	*Full-time/part-time*
Requirement:	*n/a*
Semester	*spring/fall*
Language:	*Hungarian/English*
Prerequirement	*n/a*
Oktató Intézet/tanszék(ek):	*MATE VTI Department of Wildlife Biology and Management*
Course Leader	*Dr. Sándor Csányi, PhD (CSc)*

Course Description: Wildlife biology, as a branch of applied ecology, studies the relationships between wildlife species and their environment, with the **population**—characterized by statistical parameters—serving as its central unit of analysis. The curriculum focuses on **population dynamics models**, density-dependent regulation, as well as competition and predator-prey relationships. **Wildlife management** refers to the intentional manipulation of populations and habitats for the purposes of wildlife conservation, sustainable use, or control. The modern approach emphasizes data-driven **adaptive management** and ecosystem management. This approach aims to conserve biodiversity and ensure the sustainable use of resources.

Course Objective: The objective of this course is to provide scientific knowledge and understanding of the ecological relationships between wildlife species and their environments, as well as to apply this knowledge in practice for the systematic **protection (conservation), sustainable use, and management** of wildlife populations and their habitats.

Syllabus

1. The subject of ecology, its levels of organization, and its 10 fundamental principles
2. The conceptual framework and objectives of wildlife biology, wildlife management, and hunting
3. Environmental factors, tolerance, habitat, and niche
4. Structure and descriptive parameters of wildlife populations
5. Ecological monitoring and wildlife management statistics
6. Population dynamics: models of unlimited and limited growth
7. Density-dependent regulation, environmental carrying capacity, and bioindicators
8. Life history strategies (r- and k-selection) and life tables
9. Population genetics: inheritance, variation, and inbreeding
10. Production biology, nutritional physiology, and energy metabolism
11. Spatial processes: spread, dispersal, migration, and metapopulations
12. Behavioral ecology: learning, optimal nutrition, and habitat use
13. Interactions between populations: competition, predator-prey relationships, and symbiosis
14. Wildlife management strategies: conservation, use, regulation, and adaptive management

Grading: Students are required to independently study the course material using Google Gemini and NotebookLM AI, supplemented by sources published in major languages related to each chapter. They must prepare a case study on a selected topic using Scopus.AI. The processing of the course material and the case study will be assessed using Google NotebookLM.

Notes, textbooks, recommended reading:

- **The curriculum will be available on Google Classroom:**

- Textbook and presentation materials
- Foreign-language resources related to the curriculum

COURSE DESCRIPTION

Title:	*Modern Technological Knowledge in Wildlife Management*
Neptun code:	
Lectures/Practices:	*2*
Credit:	*6*
Program:	*PhD*
Type:	*full time*
Requirements:	*exam*
Semester:	*autumn*
Language:	*English*
Pre-requirements:	*none*
Institute/Department:	*MATE Institute for Wildlife Management and Nature Conservation*
Course leader:	*Dr. Gergely Schally PhD*

Description: Students will learn about the most recent tools and methods that support wildlife management and wildlife data collection, and the settings inherent in them. The course will present the possibilities and conditions provided by modern technological tools in wildlife management and hunting, as well as the legal and ethical concerns related to their application.

Aims: Students will receive a comprehensive overview of the latest opportunities for field data collection and data processing, as well as modern technological tools that are gradually appearing in the practical use of hunting and game management, increasing efficiency and safety.

Syllabus:

10. Use of wildlife cameras and camcorders
11. Digital photography and photo archiving
12. Possibilities of using smartphones/tablets and software in wildlife research, hunting, and game management
13. Possibilities of using GPS and GIS in wildlife research and game management
14. Concepts and methods of remote sensing
15. Modern technological tools in hunting and game management
16. Possibilities of using unmanned aircraft

Grading: Attendance at the course in person or completion of the online exam. The written exam is evaluated by scoring based on the MATE study and examination regulations. Students who fail the exam may retake the written exam under the terms of the study and examination regulations.

References:

- Content of Lectures
- the course material is available on the e-learning platform created for the course

COURSE DESCRIPTION

Tutle:	*Nature and Wildlife Conservation*
Course code:	SDI….
Number of hours per week:	*2 (26 hrs)*
Credit:	*8*
Program:	*PhD*
Type	*Full-time/part-time*
Requirement:	*optional subject*
Semester	*spring*
Language:	*Hungarian/English*
Prerequirement	*n/a*
Oktató Intézet/tanszék(ek):	*MATE VTI Department of Wildlife Biology and Management*
Course Leader	*Dr. Krisztián Katona, PhD*

Course Description: This course makes an overview how different factors affect the biodiversity of our Earth. We pay attention to the different threats to the ecosystems and wildlife species and through several examples we describe the pathways from the identification of a conservation issue to the optimal management of it. Major problems like different environmental protection issues, biological invasions, effective management of protected areas and small populations, involvement of local people and stakeholders will be targeted. All these topics will be related to the actual doctoral topic of the students.

Course Objective: The aim of this course is to demonstrate the extent to which we influence Earth's wildlife, ecological systems, and ecosystem services. The course aims to present strategies for mitigating human pressure and adverse impacts on wildlife and its habitats, as well as for effectively identifying and appropriately managing threats and problems (such as population declines and human-wildlife conflicts).

Syllabus

1. Biodiversity of the Earth, values, services
2. Legislative and management system of nature conservation
3. Main threats to wildlife populations and their habitats
4. Effective management of declining and small wildlife populations
5. The role of hunting and game management in wildlife conservation
6. Biomonitoring techniques, advanced research solutions, citizen science in wildlife conservation

Grading:

Students must submit their work in accordance with the different assignment types. This may be: a) a prepared manuscript in Hungarian or English based on a1) a systematic literature review; or a2) an independently conducted field study; or b) a written report and/or a detailed oral presentation on a specific topic. In the case of the manuscript assignment, students receive ongoing support throughout the semester

Notes, textbooks, recommended reading:

- **The curriculum will be available on the e-learning:**
  - Textbook and presentation materials
  - Foreign-language resources related to the curriculum

COURSE DESCRIPTION

Tutle:	*Small Game Management*
Course code:	SDI….
Number of hours per week:	*2 (26 hrs)*
Credit:	*8*
Program:	*PhD*
Type	*Full-time/part-time*
Requirement:	*n/a*
Semester	*Spring*
Language:	*Hungarian/English*
Prerequirement	*n/a*
Oktató Intézet/tanszék(ek):	*MATE VTI Department of Wildlife Biology and Management*
Course Leader	*Dr. Sándor Csányi, PhD (CSc)*

Course Description: This course covers the **theoretical foundations of small game management** from an ecological perspective. It examines the **factors influencing population dynamics**, methods for estimating population parameters, and science-based modeling. Emphasis is placed on **data-driven, sustainable population management**, the principle of "wise use," and the preservation of remaining populations. The course prepares students to **evaluate population balances** and to perform practical habitat management and predator management tasks.

Course Objective: The aim of this course is to provide students with the **theoretical and practical foundations of small game management from an ecological perspective**, with particular emphasis **on population dynamics and the biological needs** of species. A key objective is to master **decision-making based on reliable data and rigorous monitoring**, which enables the scientific tracking and modeling of population processes. The course also aims to familiarize students with **habitat development and conscious, planned predator management methods** to ensure the effective and economical regulation of populations.

Syllabus

1. Basic concepts and the objectives of small game management.
2. The status of small game species and changes in their habitats.
3. Population survey methods and monitoring.
4. Estimation of population parameters (reproduction and mortality).
5. Modeling and the ecological principles of utilization.
6. The ecology and management of the European hare.
7. The ecology and management of the pheasant.
8. Artificial rearing and release.
9. Conservation and habitat management of the grey partridge.
10. Waterfowl management and the protection of wetland habitats.
11. Management of other small game species (snipe, pigeons, partridge).
12. Theoretical background of the predator-prey relationship.
13. Practical predator management and culling

Grading: Students are required to independently study the course material using Google Gemini and NotebookLM AI, supplemented by sources published in major languages related to each chapter. They must prepare a case study on a selected topic using Scopus.AI. The processing of the course material and the case study will be assessed using Google NotebookLM.

Notes, textbooks, recommended reading:

- **The curriculum will be available on Google Classroom:**
  - Textbook and presentation materials

○ Foreign-language resources related to the curriculum

COURSE DESCRIPTION

Title:	Wildlife Research Methodology
Neptun code:	*SDI…*
Lectures/Practices:	*2*
Credit:	*6*
Program:	*PhD*
Type:	*full time*
Requirements:	*no*
Semester:	*autumn*
Language:	*English*
Pre-requirements:	*no*
Institute/Department:	*Institute for Wildlife Management and Nature Conservation*
Course leader:	*Zsolt Biró PhD*

Description: Within the scope of this course, students will learn about different types of population estimates and the use of indices. How to incorporate estimates into monitoring programs. Statistical parameters of estimates. Animal marking techniques and the applications of radio- and GPS telemetry. Methodology of behavioural research. Use of questionnaires in wildlife biology research. Application of wildlife cameras in research and management, population estimation possibilities using wildlife cameras. Determination of diet composition for herbivorous and carnivorous species.

Aims: Students gain a comprehensive understanding of the general methodological approaches used in wildlife biology research, which they can directly apply in wildlife management and conservation practice.

Syllabus:

1. Planning data collection.
2. The role of estimates in ecology. Characterizing the results of estimates: basic mathematical and statistical concepts. Concepts related to the reliability of estimates.
3. Classification of population estimation methods. Conditions for effective estimation: knowledge of the species and its environment. The importance and planning of sampling.
4. Population estimation methods based on direct counting. Line transects and strip transects.
5. Capture methods, CMR, and removal.
6. Use of wildlife cameras, population estimation using wildlife cameras.
7. Estimation and/or monitoring? Characteristics and design of monitoring programs
8. Design and use of questionnaires in wildlife biology and management.
9. Application of bioindicators in wildlife management.
10. Methodology of behavioural research.
11. Animal marking, radio- and GPS telemetry.
12. Determining the diet composition of herbivores.
13. Determining the diet composition of predators

Grading: Attendance at the course and completion of the online exam.

References:

- the material covered in class
- the course content, which is available on the e-learning platform created for the course
- Silvy, N. J. (ed) 2020. The Wildlife Techniques Manual. Research. 8th ed. vol.1. John Hopkins Univ. Press. Baltimore.