

**Building Capacity
of Serbian Agricultural
Education
to Link with Society**



**Izgradnja kapaciteta
srpskog obrazovanja
u oblasti poljoprivrede
radi povezivanja sa društvom**

**Coordinator:
University of Belgrade
Faculty of Agriculture**

**Koordinator:
Univerzitet u Beogradu
Poljoprivredni fakultet**

COURSE REGISTRATION FORM

Teacher	Nataša Đorđević
University	State University of Novi Pazar
Course	Endocrine regulation of animal behavior
Target	Agricultural Middle Schools
Type	blended
Duration	1 day - 8 hours

Description	<p>Endocrine regulation of behavior is closely related to the survival, reproduction and health preservation of the animals. Method of keeping, treatment, nutrition and the relationship of humans to the animal may disrupt the regulation mechanisms, which is reflected by the change of the behavior of animals, and therefore the survival, health and reproductive success.</p> <p>The purpose of this course is to get the participants acquainted with the latest scientific research in the field of endocrine regulation of animal behavior; to point out the environmental factors that disrupt the regulation mechanisms and lead to behavioral changes, reproductive failure and disease; to integrate the existing and new knowledge about the importance of a complex hormone-brain-behavior system for the survival, health and reproduction of animals.</p> <p>The course includes a series of lectures on specific forms of animal behavior related to the survival, reproduction and care of offspring. The mechanisms of hormonal regulation of certain forms of animal behavior, the brain control of the hormones secretion and how the hormones affect the brain will be presented by the course. The effects of animal behavior endocrine regulation disorders on the survival, health and reproductive success of animals will also be presented.</p>
--------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Contents	<ol style="list-style-type: none"> 1. Neuroendocrine basis of animal behavior 2. HPA axis and the physiological response to stress 3. Endocrine basis of animal aggressive behavior 4. Reproductive behavior 5. Animal maternal behavior 6. Ingestive behavior of animals 7. Pheromones and chemical communication in animals 8. Circadian regulation of endocrine functions and seasonal rhythm of animals
-----------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Objectives	<ol style="list-style-type: none"> 1. Presentation of the latest scientific research in the endocrine regulation of animal behavior. 2. The integration of the existing and new knowledge about the importance of animal behavior for the survival, health and reproduction of animals. 3. Adoption of the concept of the behavioral dependence on the hormonal status
-------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

of animals through the recognition of specific forms of conduct and regulatory mechanisms in the given examples.

4. Enabling the participants to independently make conclusions about the consequences of the disrupted endocrine regulation of behavior.

Activities

1. Introduction to each topic will begin with a discussion of generally known forms of animal behavior, with the aim to raise questions and define the issues related to the content of a topic.
2. The main part of the topic, which refers to the secretion, function and regulation mechanisms of hormones in certain forms of behavior, will be presented through discussion with participants and teaching method. The secretion of hormones and mechanisms of action will be presented via computer animation or in the form of pictures or diagrams in Power Point presentations.
3. After the main part of the topic is done, the checking of the knowledge acquired by the course participants will be carried out by using the quiz (total 8), with the use of *Moodle* application.
4. During the course, after each unit, participants will do project tasks (3 altogether). Project tasks will be carried out in groups (3-5 students). Within each project task, a group of participants should recognize the behavior and define the regulation mechanisms, based on a short film showing the specific behavior of animals. Upon completion of the project activities, participants will exchange group results and correct the wrong answers through a discussion.
5. At the end of the course students take a final exam in the form of a test using *Moodle* application.

Evaluation of knowledge:

Activity	Points
Quiz (8 x 2)	16
Project tasks (3 x 8)	24
<u>Final exam</u>	<u>60</u>
Total	100

Materials

1. *PowerPoint* presentation
2. Computer animation
3. *Moodle* applications
4. Printed materials