

### Annotation of elective educational component «Special genetics»

<b>Academic discipline</b>	<b>Special genetics</b>
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<b>Courses and semesters, when the discipline is planning to study</b>	1 course (master degree), 2 semester
<b>Faculties whose students are invited to study discipline</b>	Biological-technological faculty
<b>List of competencies and learning-related outcomes that discipline provides</b>	<p>According to the requirements of the educational-professional program "Technology of production and processing of livestock products" applicants must acquire the ability to obtain the following competencies:</p> <p>GC 2 (general competence). Ability to conduct research at an appropriate level.</p> <p>GC 3. Ability to apply knowledge in practical situations.</p> <p>GC 4. Knowledge and understanding of the subject area and understanding of professional activity.</p> <p>PC 15 (professional competence). The ability to use professional knowledge in the field of animal breeding and selection, to master the basic processes of genetic analysis in the latest technologies for the production and processing of livestock products.</p> <p>PC 16. The ability to use knowledge of the basic processes of changing genetic information in animal populations.</p> <p>PC 17. Ability to apply various methods of genetic engineering and methods of improving the technological process of selection and breeding of animals.</p> <p>The result of studying the discipline is the students' acquisition of such knowledge and skills:</p> <ul style="list-style-type: none"> <li>- to follow their own improvement and master modern knowledge (to know the achievements of special genetics on heredity and variability of quantitative and qualitative characteristics of different species of farm animals);</li> <li>- to combine measures to improve the level of productivity of animals and the quality of their products (to know the genetic parameters of productivity of livestock, pigs, sheep and goats, horses, poultry, fish, fur animals and bees; to know the factors of genetic progress in populations; to know the genetic problems of hybridization, inbreeding, outbreeding and inbred depression);</li> <li>- create measures to improve breeding work in animal husbandry (to know the genetic consequences of selection and genetic engineering technologies; to know the basics of hereditary resistance to disease; selection parameters during selection for immunity).</li> </ul>

<b>Description of the discipline</b>	
<b>Prerequisites needed for studying the discipline</b>	The selective educational discipline "Special genetics" is based on the knowledge of such disciplines as "Genetics with biometrics", "Morphology of farm animals" studied in the 1st year, and "Physiology of farm animals" "Animal reproduction technology", "Microbiology in animal husbandry", "Biochemistry in animal husbandry", studied in the 2nd year.
<b>Students' limit in a group</b>	15 students
<b>Topics of in-class activity</b>	<p><b>Lectures</b></p> <ol style="list-style-type: none"> <li>1. Introduction. Cattle genetics.</li> <li>2. Horse genetics.</li> <li>3. Pig genetics.</li> <li>4. Sheep and goat genetics.</li> <li>5. Fur animals and rabbit genetics.</li> <li>6. Fish genetics.</li> <li>7. Poultry genetics.</li> <li>8. Insects genetics.</li> </ol> <p><b>Practical classes</b></p> <ol style="list-style-type: none"> <li>1. Cattle genetics.</li> <li>2. Heritability and repeatability of milk yield, milk fat and milk protein.</li> <li>3. Horse genetics. Epistatic rows of horse coat color; Castle's hypothesis.</li> <li>4. Genetic diseases and defective development in horses.</li> <li>5. Genetic diseases in swine.</li> <li>6. Sheep and goat genetics.</li> <li>7. Fur animals genetics.</li> <li>8. Rabbit genetics</li> <li>9. Fish genetics.</li> <li>10. Poultry and insects genetics.</li> </ol>
<b>Language of teaching</b>	Ukrainian, English