



SZKOŁA GŁÓWNA  
GOSPODARSTWA  
WIEJSKIEGO

Avian diseases  
Educational subject description sheet

**Basic information**

<b>Field of study</b> Veterinary Medicine	<b>Didactic cycle</b> 2023/24	
<b>Speciality</b> -	<b>Subject code</b> WETFVMS_D.5100.01755.23	
<b>Organizational unit</b> Faculty of Veterinary Medicine	<b>Lecture languages</b> english	
<b>Study level</b> long-cycle	<b>Mandatory</b> Obligatory subjects	
<b>Study form</b> full-time studies	<b>Block</b> Major subjects	
<b>Education profile</b> General academic	<b>Disciplines</b> Veterinary medicine	
<b>Coordinator</b>	Artur Żbikowski	
<b>Teacher</b>	Artur Żbikowski, Beata Dolka, Piotr Szeleszczuk, Aleksandra Ledwoń, Joanna Turniak, Krzysztof Adamczyk	
<b>Period</b> Semester 9	<b>Examination</b> Exam	<b>Number of ECTS points</b> 6
	<b>Activities and hours</b> Lecture: 45 Laboratory exercises: 45	

## Goals

Code	Goal
C1	The student learns about basic issues of avian anatomy, immunology, and correct diagnosis of avian diseases based on clinical, and pathological examinations and laboratory tests. During the course, students should acquire the theoretical knowledge and practical skills necessary to diagnose and treat diseases in birds. The student acquires both basic and detailed information and knowledge in the field of poultry production, pigeons, exotic birds, and wild birds.
C2	During the lectures the knowledge of the following areas will be provided: history of avian pathology (selected facts), selected topics of avian reproduction and avian embryopathology, management - health problems and metabolic disorders in poultry, viral diseases of the respiratory system in poultry, viral neoplastic diseases in poultry, viral immunosuppressive diseases in poultry, other viral diseases in poultry, fungal diseases of poultry and mycotoxicoses, bacterial diseases of poultry, ostrich diseases, turkey diseases, waterfowl diseases, pigeon diseases, pet birds diseases, parasitic diseases in the differential diagnosis, environmental diseases and technological problems, deficiency diseases in the differential diagnosis.
C3	During the classes, the knowledge of the following areas will be provided: the avian topographical anatomy and selected topics of avian physiology, necropsy techniques, physiology and pathology of hatching, hygiene rules in the hatchery, pathology of Struthioniformes, clinical diagnostics methods in poultry, biosecurity in poultry farms (introduction), notifiable diseases in birds, introduction to infectious immunology in poultry and serology, immunoprophylaxis of viral diseases of poultry, immunoprophylaxis, and prevention of bacterial diseases of poultry, treatment of poultry diseases, introduction to turkey pathology, pathology of waterfowl, health problems of backyard flocks, introduction to pigeon pathology, pathology of pet- birds, the differential diagnosis of avian diseases.

## Entry requirements

Animal anatomy 2, Animal physiology 2, Microbiology 2, Immunology, Pathomorphology 3, Veterinary pharmacology 2, Animal husbandry and breeding

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	basic anatomy, embryology, and topographic anatomy of farm- and pet- birds	B.W1	Written exam, Written credit, Oral credit
W2	physiology and pathophysiology of farm- and pet-birds	B.W1, B.W2	Written exam, Written credit
W3	pathomorphology of farm- and pet- birds	B.W1, B.W2, B.W3	Written exam, Written credit, Oral credit
W4	avian infectious and non-infectious diseases	B.W17, B.W3, B.W4, B.W5, B.W6, B.W7, B.W8, B.W9	Written exam, Written credit, Oral credit
W5	pharmacodynamics and pharmacokinetics of drugs used in birds	B.W3, B.W4	Written exam, Written credit
W6	immunology and the prevention of avian infectious diseases	B.W3	Written exam, Written credit, Oral credit
<b>Skills - Student can:</b>			
U1	perform clinical investigations of the farm- and pet-birds and can perform basic laboratory tests	B.U1, B.U2, B.U3, B.U5, B.U6	Written exam, Written credit
U2	perform the necropsy of birds' carcasses, can prepare the necropsy protocol, and interpret the results	B.U16	Oral credit

Code	Outcomes in terms of	Effects	Examination methods
U3	take appropriate samples for laboratory tests and interprets the test results	B.U6	Written exam, Oral credit
<b>Social competences - Student is ready to:</b>			
K1	perform the diagnosis of infectious and non-infectious diseases in birds	KS.1, KS.5	Written exam
K2	act according to the principles of avian disease therapy	KS.1, KS.4, KS.8	Written exam, Written credit

### Study content

No.	Course content	Subject's learning outcomes	Activities
1.	History of avian pathology (selected facts). Selected topics of avian reproduction and avian embryopathology. Hygiene rules in the hatchery. Biosecurity in poultry farms (introduction).	W1, W2, W3, W4	Lecture, Laboratory exercises
2.	Management - health problems in poultry.	W4, W6, K1, K2	Lecture
3.	Avian diseases: metabolic disorders in poultry, viral diseases of the respiratory system in poultry, viral neoplastic diseases in poultry, viral immunosuppressive diseases in poultry, bacterial diseases of poultry, fungal diseases of poultry, and mycotoxicoses, parasitic diseases in the differential diagnosis, deficiency diseases in the differential diagnosis, environmental diseases and technological problems.	W2, W3, W4, W5, W6, U1, K1, K2	Lecture
4.	Avian necropsy techniques.	W1, W2, W3, U2, U3, K1	Laboratory exercises
5.	Clinical diagnostics methods in poultry.	W1, W2, W4, U1	Laboratory exercises
6.	Notifiable diseases in birds.	W3, W4, W6	Lecture, Laboratory exercises
7.	Introduction to infectious immunology in poultry and serology. Immunoprophylaxis of viral diseases of poultry. Immunoprophylaxis and prevention of bacterial diseases of poultry.	W1, W4, W6, K2	Lecture, Laboratory exercises
8.	Diseases of various species of birds: ostrich diseases, turkey diseases, waterfowl diseases, pigeon diseases, pet birds diseases.	W2, W3, W4, W6, U2, U3, K1, K2	Lecture, Laboratory exercises
9.	Treatment of poultry diseases.	W5, K2	Lecture, Laboratory exercises

### Course advanced

Activities	Methods of conducting classes
Lecture	Lecture, Discussion
Laboratory exercises	Case study, Discussion, Presentation, Teamwork, Individual work, Interpreting the results

Activities	Examination method	Percentage
Lecture	Written exam	50%
Laboratory exercises	Written credit	33%
Laboratory exercises	Oral credit	17%

Activities	Credit conditions
Lecture	<p>The final grade of the module (FG) entered in the eHMS system:</p> <ol style="list-style-type: none"> <li>1. grade from class (CG) = 50% - average from two tests and practical credit,</li> <li>2. grade from the exam (EG) = 50%</li> </ol> <p>Calculating the final grade (FG) from module: <math>FG = (0.5 \times CG) + (0.5 \times EG)</math>  60% is the minimum to pass.</p>
Laboratory exercises	<p>To pass the classes, it is necessary to meet all the following criteria:</p> <ol style="list-style-type: none"> <li>1. participation in the required number of classes (maximum 3 absences per semester = 20%).</li> <li>2. passing all tests (written tests and practical - oral credit) with at least a grade of 3.0.</li> <li>3. correct performance of at least 1 avian necropsy</li> <li>4. proper preparation of at least 1 avian necropsy protocol.</li> </ol> <p>The grade from the class is the average of the grades from the tests. Each of them must be scored at least 3.0 (60%).</p> <p>Calculation of the final grade for the course (entered into ehms):  <math>(0.5 \times \text{classes grade}) + (0.5 \times \text{exam grade})</math>.  The grade from the classes is 50% of the final grade.  The exam grade is 50% of the final grade.  A score of 60% (grade 3.0) is required to pass.</p>

## Literature

### Obligatory

1. Swayne D.E. (Edit): Diseases of Poultry. Wiley-Blackwell, Ames, Iowa, USA, 2020 (14 Edition). doi:10.1002/9781119371199
2. Paul McMullin, Mark Pattison, Janet Bradbury, Dennis Alexander: Diseases of Poultry. 2007. Elsevier Health Sciences. ISBN: 978-0-7020-2862-5
3. Majo Natalia, Dolz Roser. Atlas of Avian Necropsy. 2019. Servet. ISBN: 978-84-92569-36-6

### Optional

1. Boulianne M. (ed.) Avian Diseases Manual. 7th ed. AAAP-American Association of Avian Pathologists 2013. ISBN:9780978916343.
2. Burkett G.: Preventative Health Care for Pet Birds, Publish, Inc., 2020.
3. Cannon M. : A Guide to Basic Health and Disease in Birds (Revised Edition) ABK Publications, 2016.
4. Capua I., Alexander D. J.: Avian influenza and Newcastle Disease. A field and laboratory manual. Springer, Italy, 2009
5. Carpenter J.W., Harms C. (ed.): Carpenter's Exotic Animal Formulary. 6th edition. Elsevier, USA, 2022. Paperback ISBN:9780323833929.
6. Chitty J., Lierz M. (ed.): BSAVA Manual of Raptors, Pigeons and Passerine Birds. 1 edition. 2008.
7. Damerow G: The Chicken Health Handbook. 2nd Edition: A Complete Guide to Maximizing Flock Health and Dealing with Disease. Storey Publishing, 2015.
8. Doneley B.: Avian Medicine and Surgery in Practice Companion and Aviary Birds, Second Edition CRC Press, 2016.
9. Harrison G. J., Lightfoot T. L.: Clinical avian medicine. Spix Publishing, Inc, Florida, USA, 2006.
10. Hedley J. (ed.): BSAVA Small Animal Formulary. Part B: Exotic Pets. 10th edition. Wiley John & Sons. 2020.
11. Horvath- Papp I.: Practical guide to broiler health management BetúVet Ltd, 2008.
12. Kaspers B., Schat K.A., Goebel T., Vervelde L.(ed.): Avian immunology 3rd ed. Elsevier Science Publishing Co Inc, 2021.
13. Koenig H.E., Korbel R., Liebich H-G, Klupiec C.: Avian Anatomy: Textbook and Colour Atlas, 2nd Edition. 5M Publishing Ltd, UK. 2016.
14. McLelland J.: A colour atlas of avian anatomy. Wolfe Publishing Ltd., England, UK, 1990.
15. Ritchie B. W., Harrison G. J., Harrison L. R.: Avian Medicine: Principles and application. Wingers Publishing, Lake Worth, Florida, USA, 1994.
16. Scanes C., Dridi S.: Sturkie's Avian Physiology. 7th Edition. 2021. Elsevier Inc. <https://doi.org/10.1016/C2019-0-00060-X>
17. Spackman E.: Avian influenza virus. Humana Press. Totowa, New Jersey, 2008.

## Calculation of ECTS points

Activity form	Activity hours*
Lecture	45
Laboratory exercises	45
Self-study on the content covered in class	45
Preparation for the test	15
Preparation for the exam	30
<b>Student workload</b>	<b>Hours</b> 180
<b>Number of ECTS points</b>	<b>ECTS</b> 6

\* hour means 45 minutes

## Effects

Code	Content
KS.1	Absolwent jest gotów do wykazywania odpowiedzialności za podejmowane decyzje wobec ludzi, zwierząt i środowiska przyrodniczego
KS.4	Absolwent jest gotów do korzystania z obiektywnych źródeł informacji
KS.5	Absolwent jest gotów do formułowania wniosków z własnych pomiarów lub obserwacji
KS.8	Absolwent jest gotów do pogłębiania wiedzy i doskonalenia umiejętności
B.U1	Absolwent potrafi bezpiecznie i humanitarnie postępować ze zwierzętami oraz instruować innych w tym zakresie
B.U2	Absolwent potrafi przeprowadzić wywiad lekarsko-weterynaryjny w celu uzyskania dokładnej informacji o pojedynczym zwierzęciu lub grupie zwierząt oraz jego lub ich środowisku bytowania
B.U3	Absolwent potrafi przeprowadzać pełne badanie kliniczne zwierzęcia
B.U5	Absolwent potrafi oceniać stan odżywienia zwierzęcia oraz udzielać porad w tym zakresie
B.U6	Absolwent potrafi pobierać i zabezpieczać próbki do badań oraz wykonywać standardowe testy laboratoryjne, a także prawidłowo analizować i interpretować wyniki badań laboratoryjnych
B.U16	Absolwent potrafi wykonać sekcję zwłok zwierzęcia wraz z opisem, pobrać próbki i zabezpieczyć je do transportu
B.W1	Absolwent zna i rozumie zaburzenia na poziomie komórki, tkanki, narządu, układu i organizmu w przebiegu choroby
B.W2	Absolwent zna i rozumie mechanizmy patologii narządowych i ustrojowych
B.W3	Absolwent zna i rozumie przyczyny i objawy zmian anatomopatologicznych, zasady leczenia i zapobiegania w poszczególnych jednostkach chorobowych
B.W4	Absolwent zna i rozumie zasady postępowania diagnostycznego, z uwzględnieniem diagnostyki różnicowej, oraz postępowania terapeutycznego
B.W5	Absolwent zna i rozumie zasady przeprowadzania badania klinicznego i monitorowania stanu zdrowia zwierząt
B.W6	Absolwent zna i rozumie sposób postępowania z danymi klinicznymi i wynikami badań laboratoryjnych i dodatkowych
B.W7	Absolwent zna i rozumie przepisy prawa, zasady wydawania orzeczeń i sporządzania opinii na potrzeby sądów, organów administracji państwowej i samorządowej oraz samorządu zawodowego
B.W8	Absolwent zna i rozumie sposób postępowania w przypadku podejrzenia lub stwierdzenia chorób podlegających obowiązkowi zwalczania lub rejestracji
B.W9	Absolwent zna i rozumie zasady zapewniania dobrostanu zwierząt
B.W17	Absolwent zna i rozumie zasady ochrony zdrowia konsumenta zapewniane przez właściwy nadzór nad produkcją środków spożywczych pochodzenia zwierzęcego