

Module title:	Avian Diseases	ECTS	6
Polish translation:	Choroby ptaków		
Course:	Veterinary Medicine		

Module language: English	Stage: JM-FVM		
Form of studies: ☒ intramural ☐ extramural	Type of module: ☐ basic ☒ mandatory ☒ directional ☐ elective	Semester: 9	☒ winter semester ☐ summer semester
Academic year: 2022/2023		Catalogue number:	FVM-V-JMSS-09W-D21_22

Module coordinator:	dr Artur Żbikowski
Teachers responsible for the module:	Academic teachers of the Faculty of Veterinary Medicine at WULS-SGGW, Department of Food Hygiene and Public Health Protection who are veterinarians specializing in avian diseases. PhD students in accordance with the internal legal acts; visiting professors; other specialists in the field of study
Objectives of the module:	Student learns basic issues of avian anatomy, immunology, correct diagnosis of avian diseases based on the clinical examinations, laboratory tests and necropsy. They should gain the theoretical knowledge and practical skills necessary during the course, which is necessary to diagnose and treat birds' diseases. TOPICS OF LECTURES: 1. The history of avian pathology – selected facts 2. Selected subjects connected with avian reproduction 3. Avian embryopathology 4. Poultry management – health problems 5. Metabolic disorders 6. Ostrich (<i>Struthioniformes</i>) diseases 7. Viral diseases of the respiratory system in poultry 8. Viral neoplastic diseases in poultry 9. Viral immunosuppressive diseases in poultry 10. Other viral diseases in poultry 11. Fungal disease of poultry and mycotoxicoses 12. Bacterial diseases of poultry 13. Turkey diseases 14. Waterfowl diseases 15. Pigeon diseases 16. Pet birds diseases 17. Parasitic diseases in the differential diagnosis 18. Environmental diseases and technological problems 19. Deficiency diseases in the differential diagnosis TOPICS OF CLASSES: 1. The avian topographical anatomy and selected topics of avian physiology 2. Necropsy techniques 3. Physiology of hatching 4. Pathology of hatching 5. Hygiene rules in the hatchery 6. Pathology of <i>Struthioniformes</i> 7. Clinical diagnostics methods in poultry 8. Biosecurity (introduction) 9. Notifiable diseases in birds 10. Introduction to infectious immunology in poultry. Serology 11. Immunoprophylaxis of viral diseases of poultry 12. Immunoprophylaxis and prevention of bacterial diseases of poultry 13. Introduction to turkey pathology 14. Pathology of waterfowl 15. Health problems of backyard flocks 16. Introduction to pigeon pathology 17. Pathology of pet- birds 18. The differential diagnosis of avian diseases The content of the lectures supplements the content of the laboratory classes.
Teaching forms, number of hours:	a) Lectures; hours 45; b) Laboratory classes; hours 45;
Teaching methods:	Lectures: original multimedia presentations describing the most important issues in differential diagnosis, prevention and treatment of various etiologies birds diseases, taking into account clinical and practical aspects. The lectures also include

		information about the development of aviopathology, birds reproduction, management and poultry production organization with emphasis of their importance for the treatment of potential problems. Classes are conducted in a dualistic formula. Classes begin with the seminar part introduction to topic (according to class schedule) and practical part. • Methods enabling students to acquire practical skills: Following the seminars students perform clinical examination or autopsy on the material (carcass) of variety of avian species, including farm- and pet- birds. Consultations (1h/week). Detailed schedule of the classes and detailed organization of consultations will be defined by the coordinator of the course at the beginning of semester.		
Formal prerequisites and initial requirements:		Passing the courses: Animal anatomy, Animal physiology, Microbiology, Patomorphology, Immunology, Veterinary pharmacology, Animal husbandry and breeding, Parasitology and invasiology.		
Learning effects		Course outcomes:	Learning outcomes relative to the course outcomes	Impact on the course outcomes*
Knowledge:	1	Student has a basic knowledge of basic anatomy and embryology, topographic anatomy of farm- and pet- birds	A.W.1, A.W.2, A.W.3, A.W.13	1 2
	2	Student has a knowledge of physiology and pathophysiology of farm- and pet- birds	A.W.3, A.W.4	2 1
	3	Student has a knowledge of pathomorphology of farm- and pet- birds	A.W.13, B.W.2 B.W.1	2 3
	4	Student has a knowledge of avian infectious and non-infectious diseases	A.W.10, A.W.13, B.W.1, B.W.4	2 3
	5	Student has a knowledge of pharmacodynamics and pharmacokinetics of drugs used in birds	A.W.16, B.W.3, B.W.4	1 2
	6	Student has a knowledge of immunology and prevention of avian infectious diseases	A.W.9, A.W.11	2
Skills:	1	Student can carry out clinical investigation of farm- and pet- birds and can perform basic laboratory tests	B.U.3, A.U.1, A.U.3, A.U.2, A.U.17	3 2 1
	2	Student can perform necropsy of birds carcasses and can prepare and interpret results	B.U.2, B.U.6, B.U.16, B.U.19, B.U.20, A.U.15, A.U.14	2 1 3
	3	Student can collect samples for laboratory tests and interpret results	B.U.6, B.U.8,	2
	4	Student can prepare and perform proper therapy of avian diseases	B.U.13	3
Competences:	1	Student is prepared to undertake the diagnosis of infectious and non-infectious diseases in birds.	KS.1, KS.5	2 3
	2	Student is prepared to make decisions regarding to therapy of avian diseases	KS.1, KS.5, KS.10	2 3
	3	Student is ready to actively participate in the prevention of avian diseases subjected to eradication and registration	KS.4, KS.10, KS.11	2 3 1
	4	Student is aware of the need for continuing education and is ready to regularly deepening the knowledge, using scientific sources	KS.8	3
	5	Student is ready to formulate conclusions based on the results of the autopsy and auxiliary tests	KS.5, KS.10	3
Objectives of the module required to obtain learning effects:		Veterinary aspects of avian reproduction and selected topics in avioembryopathology. Organization of poultry production – veterinary aspects. Biosecurity in poultry production. Control of infectious diseases of birds. Viral respiratory diseases of poultry, immunosuppressive diseases, and neoplastic diseases. Bacterial, fungal, and mycotoxicose diseases of poultry. Metabolic and environmental diseases and technopathies. Parasitic and deficiency diseases in differential diagnosis. Diseases of turkeys, waterfowl, ratites, pigeons, and pet birds. Clinical and anatomical examination of birds, vaccination techniques, and principles of therapy.		
Assessment methods:		During the winter semester, 3 colloquia are anticipated: 1. Two written tests with mixed questions (single/multiple choice, open, cloze, gap-filling, true/false) from topics presented in classes are planned. Students will be informed of the criteria for each test during the first class. 2. Practical credit for a grade, based on the student's necropsy technique skills and his knowledge gained during semester. As part of this credit, each Student may be asked to write a necropsy protocol. Two terms for each written test and practical credit are anticipated (I -first term, II -retake). Both terms are in the same form and 60% of points are required to pass. The retake is for Students who have not obtained the required number of points and Students who were absent in the first term. Absences from classes can be excused based on a doctor's certification of a short-term inability to participate in classes or by the Student's demonstrating other important reasons that prevented participation in classes and which justify such absences within 7 days. All details can be found in the module rules and regulations and will be given to Students during the first class. Active participation of the Student in the avian necropsy and preparation of protocols (assessment without grade). This activity is documented by providing the appropriate protocols or forms for the Teacher, noted in the class register book. Each student has to perform a minimum of one necropsy and write one necropsy protocol. Minimum requirements for each student to pass the classes: - not more than 3 absences in all classes (20%)		

	- getting at least 60% of the points from each of the tests (1 and 2) and practical credit. - one necropsy performed on an avian carcass (assessment without grade, noted in the class register book) - one necropsy protocol (noted in the class register book; all protocols must be submitted to the Teacher) The final grade from classes (CG) is the average of the grades from two tests (1 and 2) and practical credit. Final Exam. All Students who pass the classes can take the final exam. Two terms for the exam are anticipated (I -first term, II -retake). The final test is in written form with mixed questions from the knowledge presented in lectures and classes (single/multiple choice, open, cloze, gap-filling, true/false). The retake is for students who have not obtained the required number of points from the final exam and students who were absent in the first term. Absence from the I-term exam can be excused based on a doctor's certification of a short-term inability to participate in the exam or by the student's demonstrating other important reasons that prevented participation in the exam and which justify such absences within 7 days. <table border="1"> <thead> <tr> <th colspan="2">The Grading scale for the final exam (EG) and final grade of the module (FG)</th></tr> <tr> <th>%</th><th>grade</th></tr> </thead> <tbody> <tr> <td>0 – 59</td><td>2</td></tr> <tr> <td>60 – 67</td><td>3</td></tr> <tr> <td>68 – 75</td><td>3,5</td></tr> <tr> <td>76 – 84</td><td>4</td></tr> <tr> <td>85 – 92</td><td>4,5</td></tr> <tr> <td>93 – 100</td><td>5</td></tr> </tbody> </table> An unsatisfactory grade (2) is included in the final grade calculation (FG). No extra assessment methods are anticipated. In case of unforeseen, unusual circumstances mandatory remote teaching and remote assessment methods might be adopted.	The Grading scale for the final exam (EG) and final grade of the module (FG)		%	grade	0 – 59	2	60 – 67	3	68 – 75	3,5	76 – 84	4	85 – 92	4,5	93 – 100	5
The Grading scale for the final exam (EG) and final grade of the module (FG)																	
%	grade																
0 – 59	2																
60 – 67	3																
68 – 75	3,5																
76 – 84	4																
85 – 92	4,5																
93 – 100	5																
Formal documentation of learning outcome:	eHMS entry Records collected in the course portfolio (general rules of the course, individual records of student's results, attendance list in class register book, list of oral and written questions, necropsy protocol(s), signed tests and exam papers).																
Elements impelling final grade:	Attendance to the classes is mandatory, student can be absent on 20% of labs or according to the current academic regulations. The final grade of the module (FG) entered in the eHMS system: - grade from class (CG) = 50% - average from two tests and practical credit, - grade from exam (EG) = 50% Calculating the final grade (FG) from module: $FG = (0.5 \times CG) + (0.5 \times EG)$																
Teaching base:	Classrooms in buildings 22, 23, 24 and necropsy room (B24) of the Faculty of Veterinary Medicine SGGW																
Mandatory and supportive materials : Basic literature: - Boulianne M. (ed.) Avian Diseases Manual. 8th ed. AAAP-American Association of Avian Pathologists 2019. ISBN: 9781646333936 - Harrison G. J., Lightfoot T. L.: Clinical avian medicine. Spix Publishing, Inc, Florida, USA, 2011. ISBN 10: 0975499408 ISBN 13: 9780975499405 - Lucio-Martinez B., Korich J.A. Illustrated Guide to Poultry Necropsy and Diagnosis. Cornell University. 2010. ISBN: 978-0-615-39605-7 - Samour J. Avian Medicine 3rd Edition. Elsevier. 2015. ISBN: 978-0-7234-3832-8 - Schmidt R.E., Struthers J.D., Phalen D.N.: Pathology of Pet and Aviary Birds, 3rd Ed. John Wiley & Sons Inc. 2024. ISBN: 978-1-119-65048-5 - Swayne D.E.: Diseases of Poultry. 14 ed. Willey-Blackwell. 2019 doi:10.1002/9781119371199 Supplementary/additional literature: - Burkett G.: Preventative Health Care for Pet Birds, Bublish, Inc., 2020. ISBN 10: 1647041457 ISBN 13: 9781647041458 - Campbell T.W., Grant K.R.: Exotic Animal Hematology and Cytology. 5 ed. John Wiley & Sons, Inc.2022. ISBN:9781119660231 DOI:10.1002/9781119660293 - Capua I., Alexander D. J.: Avian influenza and Newcastle Disease. A field and laboratory manual. Springer, Italy, 2009 DOI: 10.1007/978-88-470-0826-7 - Carpenter J.W., Harms C. (eds.): Carpenter's Exotic Animal Formulary. 6th edition. Elsevier, USA, 2022. ISBN: 9780323833929. - Chitty J., Lierz M. (eds.): BSAVA manual of raptors, pigeons and passerine birds. BSAVA. 2008. ISBN: 978-1-905319-0-46 - Doneley B.: Avian Medicine and Surgery in Practice. Taylor & Francis Group. 2016. ISBN: 978-1-4822-6019-9 - Graham J., E. W. Blackwell. Blackwell's 5 minute veterinary consult, Avian. 2016. ISBN: 9781118934593. - Harrison G. J., Lightfoot T. L.: Clinical avian medicine. Spix Publishing, Inc, Florida, USA, 2006. ISBN: 00-9754994-0-8 - Hedley J. (ed.): BSAVA Small Animal Formulary. Part B: Exotic Pets. 10th ed. Wiley John & Sons. 2020. ISBN: 9781910443712 - Kaspers H., Schat K.A., Goebel T., Vervelde L.(ed.): Avian immunology 3rd ed. Elsevier Science Publishing Co Inc. 2021. ISBN: 9780128187081 - Koenig B.E., Korb R., Liebich H-G, Klupiec C.: Avian Anatomy: Textbook and Colour Atlas, 2nd Ed. 5M Publishing Ltd, UK. 2016. ISBN 978-1-910455-60-9 - Lourens S., Holleman J., van Schie T.: Hatchery Signals: A Practical Guide to Improving Hatching Results. R Publishers B.V. 2021. ISBN: 978-90-8740-333-1 - Majo N., Dolz R.: Atlas of avian necropsy. Microscopic diagnosis sampling. Grupo Asís Biomedica, SL. 2019. ISBN: 978-84-17225-90-2 - McLelland J.: A colour atlas of avian anatomy. Wolfe Publishing Ltd., England, UK, 1990. ISBN: 0 7234 1575 7 - Poland G., Raftery A. BSAVA Manual of Backyard Poultry Medicine and surgery. BSAVA. 2019 ISBN: 978-1-905319-43-5 - Sturkie P.D., Whittow G.C.: Sturkie's Avian Physiology (7th Edition).Elsevier Inc. 2022. ISBN: 9780128197707 http://www.efsa.europa.eu/ http://www.oie.int/ http://www.who.int/en/ https://wababiosecurity.com/ https://eufarmbook.eu/en/projects/362281efdc36bb4ab0a3a870ff159fe6b7fa75387063ee3d42541bf3f5aa6c9e/contributions?projects=NETPOULSAFE - Quinn P. J.: Veterinary Microbiology and Microbial Diseases. John Wiley & Sons. 2011. ISBN: 9781405158237 And other relevant scientific publications, including those of the module coordinator. ANNOTATIONS																	

* 3 – complete and detailed, 2 – moderate, 1 – basic.

Quantitative summary of the module:

Estimated number of work hours per student (contact and self-study) essential to achieve presumed learning outcomes of the module - base for quantifying ECTS:	105 h
Total ECTS points, accumulated by students during contact learning:	4 ECTS