

UNIVERSITY OF ZAGREB
 FACULTY OF VETERINARY MEDICINE
 Heinzelova 55
 Tel. 01/2390111
 Division: Clinicals
 Unit: Obstetrics and Reproduction
 e-mail of course leader: folnozic@vef.unizg.hr
 Register no.:
 Zagreb, 20/11/2023



174264	REPUBLIKA HRVATSKA	
Veterinarski fakultet u Zagrebu		
Primljeno:	21.11.2023	
Klasifikacijska oznaka	Org. jed.	
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Urudžbeni broj	Prilozi	Vrijednost
251-61-22/403-23-55	0	-

COURSE SYLLABUS

Course name: **Farm Animal Medicine**
 Academic year 2023/2024

Course leader: Assoc. Prof. Ivan Folnožić
 Course leader substitution: Assoc. Prof. Ozren Smolec

Teachers:

Internal Diseases Clinic: Full Prof. Damjan Gračner, Assist. Prof. Jelena Gotić, Assist. Prof. Darko Grden
 Surgery, Orthopedics and Ophthalmology Clinic: Assoc. Prof. Tomislav Babić, Assoc. Prof. Ozren Smolec
 Reproduction and Obstetrics Clinic: Full Prof. Goran Bačić, Full Prof. Juraj Grizelj, Full Prof. Martina Lojkić, Full Prof. Nikica Prvanović Babić, Full Prof. Marko Samardžija, Full Prof. Silvijo Vince, Assoc. Prof. Ivan Folnožić, Assoc. Prof. Iva Getz, Assoc. Prof. Branimira Špoljarić, senior teaching assistant Ivan Butković, teaching assistant Juraj Šavorić
 Department of Microbiology and Infectious Diseases with Clinic: Full Prof. Nenad Turk, Assist. Prof. Matko Perharić.
 Department of Radiology, Ultrasound, and Physical Therapy: Assoc. Prof. Hrvoje Capak
 Department Parasitology and Parasitic Diseases with Clinic: Full Prof. Albert Marinculić
 Department of General Pathology and Pathological Morphology: Full Prof. Marko Hohšteter, Assoc. Prof. Ivan Conrado Šoštarić-Zuckermann, Assist. Prof. Doroteja Huber, senior teaching assistant Lidija Medven Zagradišnik, senior teaching assistant Dunja Vlahović, teaching assistant Iva Ciprić
 Department of Poultry Diseases with Clinic: Assoc. Prof. Danijela Horvatek Tomić, Assoc. Prof. Željko Gottstein, teaching assistant Liča Lozica
 Department of Animal Behavior and Animal Welfare: Full Prof. Kristina Matković
 Department of Animal Nutrition and Dietetics: Full Prof. Željko Mikulec, Assoc. Prof. Hrvoje Valpotić, Assist. Prof. Diana Brozić
 Department of Pharmacology and Toxicology: Full Prof. Frane Božić, Full Prof. Andreja Prevendar Crnić, teaching assistant Nikola Čudina, teaching assistant Ena Oster

First day of classes: 20/11/2023
 Last day of classes: 24/01/2024

Timetable for LECTURES academic year 2023/2024

LECTURES				
Date	Methodological unit	Teacher	Location / time	Literature
21/11/2023 1 st lecture	Rational use of drugs in farm animals Antimicrobial use in farm animals Veterinary medicine products (VMPs) for poultry	Full Prof. Frane Božić	Lecture hall of Pharmacology and Toxicology 2pm - 3:30pm	the teacher's choice
23/11/2023 2 st lecture	Welfare of domestic animals	Full Prof. Kristina Matković	Library of Animal Hygiene, Behaviour and Welfare 12pm - 1:30pm	the teacher's choice
23/11/2023 3 st lecture	Metabolic profile of cows	Full Prof. Damjan Gračner	Library of Internal Diseases 2pm - 4pm	the teacher's choice
29/11/2023 4 st lecture	Selected chapters of farm animal dietetics	Asocc. Prof. Hrvoje Valpotić	Lecture hall of Animal Nutrition and Dietetics 12:15pm - 1:45pm	the teacher's choice
30/11/2023 5 st lecture	Diagnosis and differential diagnosis of infectious diseases in swine in intensive production. General prophylaxis and immunoprophylaxis in swine held in intensive farming conditions	Full Prof. Nenad Turk	Lecture hall of Microbiology and Infectious Diseases, with Clinic 12pm - 2pm	the teacher's choice
07/12/2023 6 st lecture	Diagnosis and differential diagnosis of infectious diseases in cows, sheep and goat in intensive production.	Assist. Prof. Matko Perharić	Lecture hall of Microbiology and	the teacher's choice

	General prophylaxis and immunoprophylaxis in cows, sheep and goat held in intensive farming conditions.		Infectious Diseases, with Clinic 9am - 10:30am	
19/12/2023 7 st lecture	Farm animal dermatology	Assist. Prof. Jelena Gotić	Library of Internal Diseases 12pm - 1:30pm	the teacher's choice

Timetable for SEMINARS academic year 2023/2024

SEMINARS					
Date	Methodological unit	Teacher	Group	Location / time	Literature
28/11/2023 1 st seminar	Control of parasitic diseases in ruminants and swine	Full Prof. Albert Marinculić		Lecture Hall of Parasitology 8am – 10am	the teacher's choice
28/11/2023 2 st seminar	Integration in poultry production	Assoc. Prof. Danijela Horvatek Tomić		Lecture hall of Poultry Diseases with Clinic 12.30pm - 2.30pm	the teacher's choice
29/11/2023 3 st seminar	Poultry and game bird production systems	Assoc. Prof. Željko Gottstein		Lecture hall of Poultry Diseases with Clinic 8am - 10am	the teacher's choice
29/11/2023 4 st seminar	Hoof Pathologies	Assoc. Prof. Hrvoje Capak		Lecture hall of Radiology 10am - 12am	the teacher's choice
7/12/2023 5 st seminar	Clinical toxicology - how to approach a poisoned animal, your first case	Full Prof. Andreja Prevendar Crnić		Lecture hall of Pharmacology and Toxicology 1:30pm – 3:45pm	the teacher's choice

11/12/2023 6 st seminar	Calf bronchopneumonia pharmacotherapy Mastitis therapy Minor use minor species (MUMS) Animal Health Act	Full Prof. Frane Božić		Lecture hall of Pharmacology and Toxicology 1:30pm – 3:30pm	the teacher's choice
14/12/2023 7 st seminar	Hoof trimming	Assoc. Prof. Ozren Smolec		Reproduction and Obstetrics - Practicals 9am - 11am	the teacher's choice
14/12/2023 8 st seminar	Methods of restraint and distraction; Application of sedation, local regional, infiltration, intravenous and superficial anaesthesia of animals; Ophthalmological examination of animals. Abdominal surgery	Assoc. Prof. Tomislav Babić		Reproduction and Obstetrics - Practicals Room 11am - 1pm	the teacher's choice
14/12/2023 9 st seminar	Subclinical rumen acidosis	Full Prof. Damjan Gračner		Library of Internal Diseases 1pm - 2:45pm	the teacher's choice
14/12/2023 10 st seminar	Clinical cases of poisoning of farm animals with plants and mycotoxins	Full Prof. Andreja Prevendar Crnić		Lecture hall of Pharmacology and Toxicology 3:30pm - 5:30pm	the teacher's choice
19/12/2023 11 st seminar	Treatment of mastitis	Full Prof. Goran Bačić		Lecture hall of Reproduction and Obstetrics 8am - 10am	the teacher's choice
19/12/2023 12 st seminar	The most common internal diseases of farm animals	Assist. Prof. Darko Grden		Library of Internal Diseases 10am - 12am	the teacher's choice

Timetable for PRACTICALS academic year 2023/2024

PRACTICALS						
Date	Methodological unit	Teacher	Type of practical	Group	Location / time	Literature
18/12/2023 1 st practical	Systems of poultry and game bird production (Breeder flock rearing, reproduction, hatchery, chicken rearing)	Course teachers	Field trip		8am - 2pm Galivet d.o.o. Prelog	the teacher's choice
9/01/2024 2 st practical	Systems of poultry and game bird production (Breeder flock rearing, reproduction, hatchery, chicken rearing)	Course teachers	Field trip		8am - 2pm OPG Šćuric Sveti Križ Začretje	the teacher's choice
11/01/2024 3 st practical	Pregnancy diagnosis in cattle; Prediction of metabolic status of a dairy cow	Course teachers	Field trip		8am - 4pm Dairy Farm	the teacher's choice
16/01/2024 4 st practical	Necropsy techniques of farm animals and the most common pathological changes	Course teachers			8am - 1pm Necropsy hall of Veterinary Pathology	the teacher's choice
22/01/2024 5 st practical	Gynecological examinations; Pregnancy diagnosis Infertility	Course teachers	Field trip		8am - 4pm Dairy Farm (cow, sheep, goat)	the teacher's choice
24/01/2024 6 st practical	An insight into the work at the modern dairy, beef cattle and pig farm in Belje	Course teachers	Field trip		7am - 6pm Visit to "BELJE"	the teacher's choice

STUDENT OBLIGATIONS

Lecture attendance	By attending lectures, the student gains 3-6 points (13 lecture hours; each lecture hour equals a 0.46 coefficient). Students must attend at least 7 lecture hours.
Seminars attendance	By attending seminars, the student gains 4-6 points (30 seminar hours; each exercise hour equals a 0.133 coefficient). Students must attend at least 21 hours of seminars.
Practicals attendance	By attending practicals, the student gains 4-6 points (47 exercise hours; each exercise hour equals a 0.12671 coefficient). Students must attend at least 33 hours of practicals.
Active participation in seminars and practicals	A minimum of 5 (max. 10) points must be gained during practicals, which consists of the completion of a minimum of 3 (max. 6) positively evaluated assignments imposed by teacher and based on active participation during practicals (signed off by the teacher), 1 (max 2) field assignment and 1 (max 2) positive answer on short oral exams.
Final exam	At the final exam the student can score between 24 and 40 points. A minimum of 24 points must be achieved with the correct answers to 60% of the questions from each area. The final exam is a written test and consists of 30 questions from all areas (internal, obstetrics, surgery), and one correct answer brings 1,333 points. The total sum of points achieved from the above-mentioned elements is expressed in the final mark (1 – 5), 1 being a failure.
Examination requirements	Student requirements are defined in the Regulations on the Integrated Undergraduate and Graduate Study of Veterinary Medicine. Given the above, the student must acquire a minimum number of points from all assessment elements to take the final exam. Article 41: a student may be justifiably absent from up to 50% of the lectures; 30 % of the seminars and 30 % of the exercises.

GRADING AND EVALUATING STUDENT WORK

Continuous knowledge-checking (mid-terms)	There will be a progress test performed during the semester consisting of 30 questions (clinical pharmacology and toxicology, nutrition, radiology, welfare, pathology, parasitology, infectious diseases, poultry) and performed in written form. The progress test brings 32 points (each question equals a 1.066 points), 20 points being the minimum required to pass. Taking the progress test during the main term is compulsory (missing the main term needs to be justified). 3 additional progress test terms will be announced, as per agreement with students. (A passing grade for the progress test is a requirement to register for the final exam. However, the progress test is not a requirement for a signature in the grade book. If the student fails the progress test 4 times, he/she needs to take the whole course over again. In case he/she doesn't take the progress, test or fails it 4 times, an
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	additional term is possible if the student representative writes an official request to the respective Vice Dean. The Course leader makes the final decision.
Final exams (dates)	6/02/2024, 13/02/2024
Form of final exam	Written

LITERATURE

Obligatory literature	<p>Noakes, D. E. et al. (2019): Veterinary Reproduction and Obstetrics. 10th edition, Elsevier.</p> <p>Constable, P. D., K. W. Hinchcliff, S. H. Done, W. Grünberg, O. M. Radostits (2017): Veterinary medicine: a textbook of the diseases of cattle, horses, sheep, pigs and goats. St. Louis, Mo. Elsevier.</p> <p>Robert S. Youngquist, Walter Threlfall (2007): Current Therapy in Large Animal Theriogenology, 2nd Edition. Saunders Elsevier.</p> <p>Lumb and Jones (1996): Veterinary anaesthesia, 3rd ed., Williams and Wilkins, Baltimore.</p> <p>Jackson, P. G. G. (2004): Handbook of Veterinary Obstetrics. Saunders W. B. Company.</p> <p>James F. Zachary (2017): Pathologic Basis of Veterinary Disease. 6th edition, Elsevier.</p> <p>Straw, E. B., J. J. Zimmerman, S. D'Allaire, D. J. Taylor (2006): Diseases of swine. 9th edition, Blackwell Publishing.</p> <p>Jordan, F. et al.: Poultry Diseases, 5th ed., W. B. Saunders, 2001.</p> <p>Broom, D. M., A. F. Fraser (2007): Domestic Animal Behaviour and Welfare. 4th Edition. CAB International, Cambridge University Press, UK.</p> <p>E.S.E. Hafez and B. Hafez (2013): Reproduction in Farm Animals. 7th Edition, Wiley.</p> <p>Murphy, F. A., E. P. J. Gibbs, M. C. Horzinek, M. J. Studdert (1999): Veterinary virology. Academic Press.</p> <p>Robert F. K. (2001): Viral Diseases of Cattle. Iowa University Press, Ames, Iowa.</p> <p>Pugh, D. G. (2002): Sheep and goat medicine. Saunders Company, Philadelphia.</p> <p>Nutrient Requirements of Swine: 10th Revised Edition, National Academy Press. Washington D. C. 1998.</p> <p>Nutrient Requirements of Dairy Cattle: 7th Revised Edition, National Academy Press. Washington D.C., 2001.</p> <p>Chamberlain, A. T., Wilkinson, J. M.: Feeding the Dairy Cow. Chalcombe Publications. Welton. 2002.</p> <p>Hill, J., A. H. Andrews: The expectant dairy cow. Chalcombe Publications. Welton. 2000.</p> <p>P. R. Greenough, A. D. Weaver (1997.): Lameness in Cattle, W. B. Saunders Company</p> <p>Bolz, W. O, Dietz (1985.) Lehrbuch der allgemeinen chirurgie für Tierarzt. Ferdinand enke Stuttgart.</p> <p>M. E. Ensminger, J. E. Oldfield, W. W. Heinemann: Feeds and Nutrition (Second Edition). The Ensminger Publishing Company, USA, 1990</p> <p>Veterinary Pharmacology and Therapeutics 6th ed. (Adams, H. R., L. E. McDonald, ur.). Iowa State University Press, Ames, 1995.</p>
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	<p>Gupta, R. C.: Veterinary Toxicology: Basic and Clinical Principles. Elsevier, 2007.</p> <p>Osweiler, G.D.: Toxicology, Williams & Wilkins Philadelphia, Baltimore, 1996.</p> <p>http://www.ivis.org/library.asp, V. Baesley: Veterinary toxicology, 1999</p> <p>Strafuss A.C.: Necropsy, Procedures and basic diagnostic methods for practicing veterinarians. Charles C. Thomas, Springfield, Illinois, USA, 1988.</p> <p>King J. M., L. Roth, D. C. Dodd, M. E. Newson: The necropsy book, 3rd edition, Charles Louis Davis DVM Foundation, 2003</p> <p>Rollin, B. E. (1995): Farm animal welfare. Social, Bioethical and Research Issues. Iowa State Uni. Press.</p>
Optional literature	<p>Senger, P. L. (2012): Pathways to Pregnancy and Parturition. 3rd edition. Current Conceptions, Inc.</p> <p>Gordon, I. (1997): Controlled Reproduction in Pigs. CAB International, UK.</p> <p>Kahn C. M: Merck Veterinary Manual, 9th edition, Merck &CO, 2005.</p> <p>Jones, T. C., R. D. Hunt, N. W. King: Veterinary pathology, 6th edition, Williams & Wilkins, 1997.</p>

OBJECTIVES AND LEARNING OUTCOMES

Course objectives	<p>INTERNAL DISEASES</p> <p>After attending this course, the candidate acquires skills and knowledge that enables him/her to employ clinical methods and interpret clinical and laboratory findings necessary for getting an accurate diagnosis of most frequently occurring internal diseases in farm animals. Likewise, the candidate should also be able to recognize conditions that require further specialist attention. Knowledge and skills acquired by attending this course make the candidate qualified for work in institutions dealing with health preservation for farm animals. Acquired knowledge is also considered a good foundation for taking further continuing education in specialist disciplines.</p> <p>SURGERY, ORTHOPEDICS AND OPHTHALMOLOGY</p> <p>Surgery, orthopedics, and ophthalmology within this educational course comprises diagnostic procedures and treatment methods which are carried out in specific farm conditions, at the same time bringing into account feasibility of those procedures as well as economic considerations. Considering that, farm animals are rarely treated in conditions provided by Clinic for surgery, orthopedics, and ophthalmology, one of our primary goals is to familiarize students with methods of diagnostics and treatment that can be employed in field and farm conditions. Some of elective procedures, especially those carried out in general anesthesia, will be demonstrated in working conditions at Surgery, Orthopedic and Ophthalmology Clinic. Students will be able to approach farm animals in field conditions by protecting their own health at the same time, and to act in a manner that would provide beneficial effect on health of their patients. Considering numerous risks associated with performing general anesthesia in field conditions (especially in ruminants), the students will master methods of sedation and all forms of local</p>
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anesthesia. Basics of diagnostic procedures in ophthalmology and orthopedics that could be employed in field conditions will also be presented to those attending this course, and students will be able to correctly assess the situation and bring the decision about feasible treatment. With previously acquired knowledge in internal diseases of the digestive tract, students will be qualified to correctly decide about selecting the right method and performing surgical treatment in abdominal cavity of farm animals. In addition, students will gain a special set of skills and knowledge needed for managing external and internal injuries, as well as to treat lesions acquired secondary to localized infections. Finally, it is very important for the students to acquire knowledge that makes them qualified to perform various elective surgical procedures that are not directly associated with pathological conditions, and yet are of considerable economic importance and should be specifically performed by Doctor of Veterinary Medicine.

OBSTETRICS

During this course, the students will be familiarized with specific features of mammary gland and lactation in certain domestic animals. They will also be familiarized with the basics of farming management in swine reproduction. This includes indicators of breeding efficiency of sows, puberty in gilts and boars, as well as their introduction to reproduction. The students will be qualified to perform artificial insemination in swine without supervision and will be familiarized with providing care to suckling pigs until they are weaned. Furthermore, the objective of this course is to familiarize students with disorders in swine reproduction and measures that should be employed for their prevention and control. Students of this thematic unit will be taught about basic technics and methods employed during artificial insemination procedures. Practical classes will be held on *Phantom Dummy*, where students will have an opportunity to apply their theoretical knowledge. During attending this course, students will be familiarized with basic diagnostic tools for early pregnancy diagnosis and procedures employed for infertility treatment (estrus synchronization, treatment of ovarian cysts and other conditions causing infertility). Students will also be familiarized with physiology and pathology during puerperium in cattle and will be trained for handling puerperal period without supervision.

INFECTIOUS DISEASES

Students will have the opportunity to expand their regularly acquired knowledge about differential and objective diagnosis of infectious diseases in cattle. They will acquire knowledge that makes them qualified for interpretation of laboratory findings required for objective diagnosis of infectious diseases in cattle by methods officially dictated by legislations of Republic of Croatia. Students will also be informed about possibilities of conducting general prophylaxis and immunoprophylaxis in cattle held in intensive farming conditions. Students will have the opportunity to expand their regularly acquired knowledge about differential and objective diagnosis of infectious diseases in sheep and goats. They will acquire knowledge that makes them qualified for interpretation of laboratory findings required for objective diagnosis of infectious diseases in sheep and goats by methods officially dictated by legislations of

Republic of Croatia. Students will also be informed about possibilities of conducting general prophylaxis and immunoprophylaxis on sheep and goats held in intensive farming conditions. Students will have the opportunity to expand their regularly acquired knowledge about differential and objective diagnosis of infectious diseases in swine. They will acquire knowledge that makes them qualified for interpretation of laboratory findings required for objective diagnosis of infectious diseases in swine by methods officially dictated by legislations of Republic of Croatia. Students will also be informed about possibilities of conducting general prophylaxis and immunoprophylaxis in swine held in intensive farming conditions.

RADIOLOGY AND ULTRASOUND

Students will be trained to correctly perform radiologic examination of foot regions and to interpret findings in most frequently occurring pathological changes.

PARASITOLOGY

Following completion of this course, students should be able to take a sample of feces in a correct manner and to examine the specimen for the presence of parasitic developmental stages. They would also be able to perform skin inspection and to correctly take a sample for examination, as well as to master technics of various forms of antiparasitic therapy.

SELECTED CHAPTERS IN PATHOLOGY

By practical approach, students will be more closely familiarized with issues in performing necropsy in farm animals. In this way the students will be familiarized with pathomorphological changes that are associated with significant and more frequently occurring diseases in cattle, swine, sheep, and goats and will be instructed how to differentiate one disease from another, as well as which tissues should be sampled and then sent for additional diagnostic tests to reach the final diagnosis. Special emphasis will be placed on pathomorphological changes and differential diagnosis in ruminants, considering that students during their regular classes in "General pathology and pathological morphology" usually have lesser number of necropsies performed on ruminants than those performed on swine.

POULTRY

Acquiring knowledge about the ways of production in all production categories of poultry, with the main objective to preserve health within the population.

FARM ANIMAL WELFARE

Students will acquire knowledge about proper treatment of animals in production, which is considered very important in ensuring animal welfare.

ANIMAL NUTRITION

Students will acquire knowledge of preventing nutritional errors, which are often caused by metabolic diseases, and learn about characteristics of nutritional therapy in farm animals.

PHARMACOLOGY

	<p>At the very end of their formal higher education, students will have mastered the treatment of certain diseases of farm animals, especially because they will be able to see things in whole after everything they had been taught during the study. Special emphasis will be placed on how to properly dose drugs in group therapy by applying them in food and water for treatment and prevention of frequently occurring diseases in certain species of farm animals.</p> <p>TOXICOLOGY</p> <p>With acquired knowledge students will be qualified to recognize poisoning, to treat affected animals, be able to assess results of the treatment, and to properly sample material required for diagnostic tests, primarily for toxicological analysis. Moreover, students will be able to estimate possible losses caused by animal poisoning and to evaluate the results of chemical and toxicological analyses in case of presence of toxic residues ("Book of regulations").</p>
Learning outcomes	<p>After successfully completing the course, the student will be able to:</p> <ul style="list-style-type: none"> - recognize internal diseases of farm animals, treat the animals, and evaluate the success of the treatment - properly sample material for laboratory analysis (blood, urine) in case of suspicion of disease - master the methods of approaching and restraining farm animals, to be able to manage the process, which is carried out by one or more helpers - independently perform applications of all forms of anesthesia, applicable in farm conditions - independently perform clinical diagnostics (general and specialist clinical examination, e.g., orthopedic, and ophthalmological) - independently perform common surgical procedures on the abdomen of farm animals - independently perform functional hoof trimming - perform clinical examination of the udder (palpation, inspection) - perform a mastitis test, interpret the test results, and take milk samples for bacteriological examination - recognize the different types of mastitis and the causes that lead to the occurrence of mastitis on farms - perform artificial insemination on dairy cattle farms - manage the fertility of dairy cows - implement measures that improve fertility on the farm - diagnose early pregnancy rectally and using ultrasound - carry out measures for the treatment of infertility, carry out synchronization of estrus and carry out measures for the diagnosis and treatment of ovarian cysts and endometritis and other causes of infertility - implement a series of measures that need to be followed during the puerperium, as well as introducing the female into reproduction and lactation - recognize suspected infectious diseases of cattle, sheep, goats, and pigs in intensive production

- to identify significant factors for the emergence of infectious diseases of cattle, sheep, goats, and pigs in intensive production
- to differentially diagnose infectious diseases of cattle, sheep, goats, and pigs in intensive production based on epizootiological data and clinical findings
- choose the method of material sampling and diagnostic procedures for the objective diagnosis of infectious diseases of cattle, sheep, goats, and pigs in intensive production
- apply targeted treatment of infectious diseases of cattle, sheep, goats, and pigs in intensive production
- apply general prophylaxis measures to control and prevent infectious diseases of cattle, sheep, goats, and pigs in intensive production
- choose an immunoprophylaxis program adapted to specific intensive breeding of cattle, sheep, goats, and pigs
- apply certain x-ray techniques
- know the x-ray symptomatology of certain diseases
- evaluate the success of the treatment based on the X-ray findings
- know how to diagnose invasive diseases of farm animals
- know how to treat invasive diseases of farm animals
- know how to prepare a program for the prevention of invasive diseases of farm animals
- perform a necropsy of farm animals
- recognize the main pathoanatomical changes of the most important diseases
- properly sample material for pathohistological and/or bacteriological examination when a certain disease is suspected
- master the basic poultry breeding procedures
- independently perform poultry immunoprophylaxis procedures and know how to evaluate its effect
- recognize the possible occurrence of diseases in intensive poultry farming and apply appropriate treatment procedures - know the basics of poultry reproduction
- recognize critical points in the way of handling animals
- to know certain diseases caused by improper nutrition
- apply the basics of preventive and therapeutic nutrition
- to regulate the need for nutrients in various diseases
- apply (correctly dose) medication in feed and drinking water in farm animals
- know the peculiarities of prevention, treatment, control, and suppression of enteric and respiratory diseases (vaccines, antimicrobial and antiparasitic drugs, organic acids, microorganisms)
- know the veterinary-medical preparations used in the health control of broiler chickens, breeding and consumption layers and parent flocks (vaccines, anticoccidial and antihistaminic drugs, antimicrobial agents - dosage, ad libitum and pulsating endo- and ectoparasites)

- to know the pharmacotherapeutic basics of control and treatment of bronchopneumonia in fattened calves/heifers
- to know the peculiarities of the application of glucocorticoids in the mammary gland and the peculiarities of the application of drugs according to the principle of the MUMS (minor use minor species)
- recognize poisoning in certain animals
- choose the correct approach to treating a poisoned animal
- evaluate the success of the treatment of a poisoned animal
- judge possible wider harmful consequences caused by poisoning
- properly sample material for toxicological analysis
- judge the obtained results of the chemical toxicological test (residues)

GRADING SCHEME

<i>Points</i>	<i>Grade</i>
Up to 59	1 (F)
60-68	2 (E)
69-76	2 (D)
77-84	3 (C)
85-92	4 (B)
93-100	5 (A)

Course leader:



Assoc. Prof. Ivan Folnožić

Head of organizational unit:



Full Prof. Tugomir Karadjole

Note: The course leader is required to submit a Course Syllabus to all teachers and associates pertaining to the Course.