

## ***Brochure IV. year Autumn Semester***

**Dear Students,**

The compilation of the brochure that you hold in your hand was originally “thought up” and recommended by the students of the English class in 2011. Of course now you have the updated version of the brochure. Without their recommendation and ideas this little information brochure would not have been born. After collecting the comments and suggestions and evaluating them, a very detailed summary was put together indicating the main points.

This brochure contains information connected with the subject of obstetrics, the history and staff of the Department, a timetable is included, topics of the lectures and practicals, and recommended reading are given, topics and dates of written tests and exams are also given, department services are summarized, information is provided connected with the preparation of diploma thesis also can be found in this brochure and so on.

Therefore, I ask your further help and encourage you to share your opinions about this brochure; how and where we should improve its quality, what information still we should include into it in order to help you through your study of obstetrics.

Budapest, 6th September 2018.

Prof. Dr. Sándor Cseh  
Head of the Department

# DEPARTMENT AND CLINIC OF OBSTETRICS AND REPRODUCTION

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## Veterinary reproduction and obstetrics

The subject deals with the physiology and pathology of reproduction (reproductive physiology and pathology). The subject is of enormous importance, since without reproduction there is no production and without these two there is no useful, long life-span, upon which depends the economy of animal husbandry. Nowadays the economy is of great significance and is considered a decisive factor, and in respect to the world there is an ongoing harsh struggle. In companion animals the goal of veterinary intervention is sometimes the maintenance of pregnancy, or the achievement of optimal fertility and maximum number of offspring, but in other cases our aim is totally the opposite: to attain reversible or irreversible infertility (contraception).

For the reproduction of mammals two partners are necessary; female and male animals. Therefore obstetrics and reproductive biology deals with both the female and the male genital/sexual processes.

Reproduction is a cycle, and within this we can mention the small and large cycles. The small cycle includes the actual sexual cycle, *cyclus s. periodus sexualis*, while the large cycle includes the period which elapses between the two calving, and this is called inter calving period. The *service period* belongs to the large cycle, that is, the period that passes between the calving and the re-conception. Within the reproductive cycle the period of pregnancy, *raviditas*, and later birth, *partus*, are essential. The course of the *puerperium*, the post-birth condition, plays a crucial role in postpartum fertility preservation.

Animals that possess reproductive abilities are designated as fertile. After the sexual intercourse (mating, copulation) of fertile animals the fertilization of the oocyte (egg) occurs and after that cell division starts and as a result of this first the embryo, then the fetus develops. The science

dealing with the reproduction of female animals is one of the branches of science that discuss the large cycle. This discipline is known as **obstetrics**.

**Reproductive biology** deals with the reproductive capability of both males and females. Within this, **gynecology** deals with the pathophysiology (pathophysiologia) of the sexual/genital function of females, while **andrology** discusses the pathophysiology of the genital organs of males.

Within the subject we deal with those **techniques of assisted reproduction**, that are meant to increase the reproductive and productive capabilities of domestic animals. The first assisted reproductive technology, which was introduced in practice was artificial insemination, that was followed by embryo transfer. Presentation of fresh knowledge about the latest biotechnological interventions (ex. cloning or research on stem cells) are also part of the subject. Possibilities of application of these latest techniques and also current limitations of their use are discussed.

There can be a number of reasons for the decrease in reproductive capacity: 1. infectious and 2. non-infectious. In the latter group the ecological conditions play a vital role, including conditions of keeping, housing, nursing, handling, feeding, which are managed by the farmers. If the animals are not fed according to their reproductive / fertility needs the females can become infertile, the males can lose their sexual potency (libido) and become impotent. As a result of the inadequate conditions of animal keeping, nursing, housing, feeding, and breeding conditions the absorption of embryos can occur at a greater percentage (20-30%).

The full potential of the domestic animals' reproductive capability can only be achieved, if the females can rear their offspring. The most important condition of this is that the mothers can feed their newborns. For this reason, the **physiological functions and disorders of the udder** will be discussed within the frameworks of this subject. In addition to this the development and functioning of the udder is in close relation to the development and functioning of the genitals, pregnancy, delivery forecast, etc.. In addition to reproduction, an indispensable part of the economics of breeding is that the newborn animals, in as large percentage as possible, have to be able to survive and stay alive. Therefore, within the frameworks of this subject, we deal with the deficiencies of **obstetric hygiene**, problems resulting from **unprofessional delivery assistance**, and **attending to newborns and their diseases** as well (dealing with birth-related diseases).

### **Short introduction of the department's history**

<http://www.univet.hu/en/university/units/department-and-clinic-of-reproduction>

Recognizing the practical importance of obstetrics, Béla Plósz have started teaching veterinary obstetrics as an independent subject in 1899. He used phantoms to demonstrate obstetrical aid and slaughterhouse calves for fetotomy. From this time on, castration and ovariectomy became

a significant part of the veterinarian's activities. One of his most famous students and successors was Henrik Hetzel who introduced several new aspects such as prevention of infertility, physiology and pathology of embryo development, pregnancy and parturition. Infectious diseases of the reproductive organs, reproductive disorders caused by improper feeding and housing systems and metabolic diseases were also discussed. Hetzel initiated to establish a new clinic for obstetrics which was opened in 1930. His successor, Kálmán Bölcsházy introduced several hormonological methods, invented many obstetrical instruments and dealt with reproductive problems of the concentrated, intensive farming systems. Both Hetzel and Bölcsházy compiled several study books about animal reproduction and veterinary obstetrics. In collaboration with István Mészáros, the next head of the department Sándor Cseh has been working in organization of the national artificial insemination network. He introduced the training of artificial insemination for veterinary students and wrote books about obstetrical surgery and veterinary obstetrics. After his early death György Horváth became the leader of the department. His research activity focused on the field of mastitis and udder health. In 1973 the department moved to its present location into the new buildings and János Haraszti was nominated as chair of the department. Under his leadership there was a significant development in clinico-chemical and endocrinological methods and in the biotechnological research including the embryo transfer. After him László Zöldág became the chair with special interest in small animal reproduction and andrology. Since 1994 László Solti has been appointed to the head of the department. His research interest focused on the field of development and introduction into the practice of new immune-analytical procedures (CPBA, RIA and ELISA). His other research field was the animal biotechnology. He took part in the introduction of the embryo transfer procedure in Hungary. After 17 years of leadership, in 2011 the head of department position was taken over from László Solti by Sándor Cseh.

### **Tasks of the department:**

1. Theoretical and practical education of the students
2. Basic and applied research connected with reproduction
3. Clinical and laboratory service connected with female and male reproduction

## **I. EDUCATION (THEORETICAL AND PRACTICAL EDUCATION)**

<http://www.univet.hu/en/university/units/department-and-clinic-of-reproduction/education>

### ***1. Veterinary obstetrics and reproduction (Mandatory course)***

The discipline is divided into the following main subjects: obstetrical aid and udder health (7th semester; Obstetric 1.), gynecology and reproductive care of different animal species (8th semester; Obstetrics 2.); andrology, assisted reproduction and biotechnology (9th semester, Obstetric 3). These subjects are covering the entire oestrous cycle, fertilization and pregnancy, parturition, puerperium and resumption of postpartal ovarian activity as well as reproductive management. Students can learn not only the theoretical aspects of neuroendocrine regulation of reproductive processes but also the most frequently used operative techniques like Caesarean section, ovariohysterectomy, teat operation or vaginal prolapse. In addition to these traditional topics, assisted reproduction such as collection and cryopreservation of semen or embryos, artificial insemination and embryo transfer, in vitro fertilization, cloning and transgenic animals are also taught.

Year: 4<sup>th</sup>, 5<sup>th</sup>

Term (semester): 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>

Lectures: 45h/semester (7<sup>th</sup>, 8<sup>th</sup> semester), 30h/semester (9<sup>th</sup> semester)

Practicals: 45h/semester (7<sup>th</sup>, 8<sup>th</sup> semester), 30h/semester (9<sup>th</sup> semester)

ECTS Credits: 4 (7<sup>th</sup> semester), 3 (8<sup>th</sup> semester), 7 (9<sup>th</sup> semester)

Examination: 7<sup>th</sup> semester: colloquium (written examination), 9<sup>th</sup> semester: final examination

#### **Thematics:**

7<sup>th</sup> semester: Reproductive physiology. Obstetrical aid. Ruminant reproduction. Udder health.

8<sup>th</sup> semester: Reproduction of various species: horse, swine, dog, cat.

9<sup>th</sup> semester: Andrology. Assisted reproduction. Biotechnology.

## **Requirements:**

<http://www.univet.hu/en/university/units/department-and-clinic-of-reproduction/education/teaching-guides>

Detailed description of the requirements to fulfill the subject and acceptance of semesters can be found and downloaded from the self-developed website of the Department (see: Education and monitoring of the acquired knowledge in „Obstetrics, reproduction and udder health care”)

Shortly the main points of the monitoring and evaluation system are the followings:

- 7<sup>th</sup> semester: semester-ending exam (mark offered based upon the result of the midterm tests or written exam)
- 8<sup>th</sup> semester: practical grade (mark offered based upon the result of the midterm tests or written exam)
- 9<sup>th</sup> semester: final exam (preconditions to take the exam: valid, accepted three semesters, completed obligatory participation in specified diagnostic and therapeutic activities with written documentation (“Clinical card”).

## **Recommended readings**

- - D.E. Noakes, Timothy J. Parkinson and Gary C.W. England (eds): Veterinary Reproduction and Obstetrics. 9th edition, Saunders Elsevier, London, 2009.
  - M.H. Pineda and Michael P. Dooly (eds): McDonald’s Veterinary Endocrinology and Reproduction. 5th edition, Iowa State Press A Blackwell Publishing Company, 2003.
  - R.S. Youngquist and Walter R. Threlfall (eds): Current Therapy in Large Animal Theriogenology. 2nd edition, Saunders Elsevier, St. Louis, Missouri, 2007.
  - E.C. Feldman, R.W. Nelson: Canine and feline Endocrinology and reproduction. 3rd edition, Saunders 2004.
  - P.L. Senger: Pathways to pregnancy and parturition 2nd edition, Pullman: Current Conceptions Inc. 2003. (3rd edition, 2011.)
  - M. Sandholm, T. Honkanen-Buzalski, L. Kaartinen, S. Pyörala: The bovine udder and mastitis. 1st edition, University of Helsinki, faculty of Veterinary Medicine, Helsinki, 1995.
  - Gary England, Angelika von Heimendahl: BSAVA Manual of Canine and Feline Reproduction and Neonatology. 2nd edition, British Small Animal Veterinary Association, Gloucester, 2010.

## ***2. Andrology and Assisted Reproduction (Elective subject)***

<http://www.univet.hu/en/aotk/department-and-clinic-of-reproduction/courses/andrology-and-assisted-reproduction/>)

The procedures included in the assisted reproduction techniques are used to aid the reproductive process of both humans and animals. The technical aspects of the assisted reproduction methods used in humans and animals (especially domestic animals and primates) are very similar, although of course there are substantial differences in the indication of assisted reproduction. The main object of the course is to familiarize the students with the advances made in the new areas of reproductive biology in the past quarter-century, since it has undergone intensive development, and with the new reproductive techniques (assisted reproduction techniques). The curriculum has been entirely processed in Power Point format. The files available, for each lecture, in the form of an outline contain all the essential information and elements of the curriculum. The material is updated every school year and, free of charge, it is made available to the students in its entirety on a CD in order to make the preparation for the exams easier.

Year: 5<sup>th</sup>

Term (semester): 10<sup>th</sup>

Lectures: 20 h

Practical: 10h

ECTS Credits: 6

Examination: colloquium; written exam (test)

Teaching staff: Sándor Cseh, László Solti and invited lecturers from abroad and Hungary

## **II. BASIC AND APPLIED RESEARCH CONNECTED WITH REPRODUCTION**

<http://www.univet.hu/en/aotk/department-and-clinic-of-reproduction/subpages/research/>

- - Cryopreservation of gametes and embryos
  - In vitro culture of embryos the effect of mycotoxins on in vitro development of embryos being early stages
  - Study on factors influencing the outcome of sheep embryo transfer
  - Study on the effect of long term melatonin treatment out of breeding season in Racka rams Effects of analgesics used for the castration of piglets on welfare and performance.
  - The introduction of non invasive methods in measurement of mainly steroids hormones Retention, local tolerance and efficacy study for a progesterone containing vaginal device in cattle.
  - Prenatal development of endocrine glands
  - Developmental factors influencing individual variation in mammals.
  - Progesterone contain of corpus luteum in bitch oestrous cycle
  - Correlation of obesity and reproductive function in companion animals
  - Effect of spaying on the metabolism of different organs

## **III. CLINICAL AND LABORATORY SERVICE CONNECTED WITH FEMALE AND MALE REPRODUCTION**

Check our website for further readings.

<http://www.univet.hu/en/university/units/department-and-clinic-of-reproduction/services>

### **LIST OF THE LECTURES:**



**Obstetrics 1. – 2019 Fall**  
**Program of Lectures for the English Course 7<sup>th</sup> Semester:**  
**Introduction to Physiology of Reproduction. Reproductive Physiology, Pregnancy, Genital Malfunctions and Udder Health Care of the Cow. Small ruminant reproduction.**  
**TUESDAYS from 8:15 in the “Hetzel Henrik lecture-hall” (3x45’)**

1.	10 Sept.	The introduction of the program and requirements.
		Introduction to physiology of reproduction I. Hypothalamus. Corpus pineale. Hypophysis. Ovarian structures (follicular development, ovulation, formation of corpus luteum). Neurotransmitters, hormones, growth factors in animal reproduction ( <i>Solti, L.</i> )
2.	17 Sept.	Guest lecturer from the USA: Selected chapters of canine reproduction ( <i>presented by Bruce W. Christensen; guided by S. Cseh</i> )
3.	24 Sept.	Introduction to physiology of reproduction II. Concept and comparative aspects of cyclic ovarian function in domestic mammals. Spontaneous and induced forms of ovulation. Seasonality of reproduction. Puberty. ( <i>Solti, L.</i> )
4.	1 Oct.	Introduction to physiology of reproduction III. Development and maturation of the oocyte. Fertilization. Early embryonic development. The concept and species-based characteristics of maternal recognition of pregnancy ( <i>Cseh, S.</i> )
5.	8 Oct.	Puberty. The cyclic ovarian function of the cow. Estrus. Estrus detection under farm conditions, and advanced techniques used to check and improve its efficacy. Physiology and pathology of pregnancy (embryonic and fetal development; development of fetal membranes; implantation; endocrinology of pregnancy; pregnancy detection; termination of pregnancy; embryonic mortality; abortion) ( <i>Solti, L.</i> )
6.	15 Oct.	The ovarian function in postpartum dairy and beef cows (first ovulation / onset of cyclicity; first estrus; re-conception). Energy imbalance, and protein overfeeding, trace elements and other factors influencing the postpartum reproduction. ( <i>Solti, L.</i> )
7.	22 Oct.	Physiology and care of calving. Neonatology (the care and non-infectious diseases of newborn calves). Injuries of the birth canal. The prolapsed uterus after calving. Placental retention. ( <i>Cseh, S.</i> )
8.	29 Nov.	Characteristics of uterine contractility during the early puerperium. Peri/postpartum metabolic disorders: milk fever, ketosis, and fatty liver disease. Udder oedema. ( <i>Cseh, S.</i> )
9.	5 Nov.	Physiology, pathology and clinical aspects of uterine involution and its bacterial complications. Principles of antimicrobial and prostaglandin therapy. ( <i>Földi, J.</i> )
10.	12 Nov.	Diseases and malfunctions of genitals (CLP; anovulatory cysts; delayed ovulation; tumors and other disorders; the contagious forms of subacute/chronic (endo)metritis; other inflammatory and non-inflammatory diseases/abnormalities of the oviduct, uterus, cervix and vagina). ( <i>Cseh, S.</i> )
11.	19 Nov.	Endocrine treatment procedures [estrus synchronization (gestagens, PGF <sub>2α</sub> ); induction of ovarian cyclicity (gestagen+eCG, GnRH); induction of ovulation (GnRH); induction and synchronization of cyclicity / ovulation (Ov-synch=GPG) in dairy and beef cattle. Management of reproduction and infertility in (1) large-scale and (2) in smaller, family-operated dairy and beef herds ( <i>Cseh, S.</i> )
12.	26 Nov.	Anatomy, physiology and clinical investigation of the bovine udder; antimicrobial self-defense mechanisms of the udder; mastitis pathogens; pathogenesis of mastitis; inflammatory markers in the mastitis milk. Clinical pathology of mastitis caused by various pathogens ( <i>Staphylococcus aureus</i> , CNS, Streptococci and Gram-negative environmental pathogens; the “summer mastitis”) ( <i>Jánosi Sz.</i> )
13.	3 Dec.	Principles in herd-level management of mastitis ( <i>Jánosi Sz.</i> )
14.	10 Dec.	Reproduction of small ruminants: Physiology of the oestrus cycle. Seasonality of reproduction. Induction and synchronization of the oestrus cycle. Methods for improving the ovulation rates. Pregnancy and its detection. Pathology of pregnancy, pregnancy toxemia / ketosis. Management of reproduction. ( <i>Cseh, S.</i> )

## **GUEST LECTURERS:**

### **Bruce W. Christensen DVM.**

Dr. Bruce William Christensen graduated in 2002 from the Faculty of Veterinary Science at Cornell University, USA.

He worked as a resident, then as a clinician at the University of Florida (2002-2007), then at different horse clinics in Australia and the Cayman Islands (2007-2008). He worked as visiting scientist at the Cayman Islands and in Hungary at the Szent István University Faculty of Veterinary Science (a guest lecturer every year at the university).

Currently he teaches at UC Davis School of Veterinary Medicine (clinical reproductive biology, theoretical lectures and practical training). He is a very active researcher in the field of reproductive biology (since 2008).

From 2006 he is a member of the American College of Theriogenology and in 2007 he obtained the MSc degree from the University of Florida.

He has extensive publications and he directed numerous research programs (research grants) in recent years. He is the co-author of several book chapters and a member of several scientific/clinical societies (Society for Theriogenology, American Association of Zoo Veterinarian, American Veterinary Medical Association, Society for Conservation Biology).

### **Dr. József Földi**

He graduated from the University of Veterinary Science, Budapest (currently: Veterinary Faculty, Szt. István University) in 1986, as DVM. During the following seven years, he worked for a virological diagnostic laboratory.

His research fields at that time were:

- bovine herpesvirus type-1 control and eradication,
- Aujeszky's Disease control and eradication,
- Influenzavirus infections of poultry and swine,
- turkey rhinotracheitis (TRT).

Since 1993, he worked for the Clinical Study Group of Intervet International BV (Boxmeer, Holland) and its successors (Intervet SPAH, MSD Animal Health), where he participated or conducted more than 30 clinical studies of 20 veterinary biological and pharmaceutical products.

As part of that activity, he joined to Applied Endocrinology Team of the Department of Obstetrics and Reproduction, as external co-worker. Beside some medical development activity, in this team, by tuition of Prof. Huszenicza, he participated in a research project related to pathophysiology, predisposing factors and bacteriology of bovine uterine diseases. He have taken over the 'Physiology and pathology of bovine involution' chapter of the subject Obstetrics and Reproduction from Prof. Huszenicza, following his early and regrettable passing away.

From 2012, he continues his activity as a private consultant in his own company called Euvet Bt.(LLP).

He published 23 peer reviewed articles, which's total Impact Factor is 10.48.

## **Dr. Szilárd Jánosi**

He graduated in 1991 at the University of Veterinary Science, Budapest.

He started his carrier at the Agricultural University of Gödöllő.

Since 1994 he works at the Laboratory of Bacteriology of the Central Veterinary Institute's (its accessor is the National Food Chain Safety Office since 2012).

His Ph.D. Thesis „New data to the pathophysiology, clinics and therapy of bovine mastitis” was defended successfully in 2003.

His research activity covers the bovine mastitis, animal diseases caused by bacteria especially bovine tuberculosis and Johne's disease and antimicrobial resistance of bacteria, as well. In the above topics he is a regular teacher of university and postgraduate educations and trainings.

Sz. Jánosi is the author or co-author of 51 scientific publication and book chapter whose cumulative impact factor is 30.659.

## Training Program of PLENARY Demonstrations for the English Course 8<sup>th</sup> Semester

<b>TUESDAYS</b>		<i>Central campus in Budapest – HETZEL HENRIK (Obst.) auditorium</i> Tuesdays - 15.15 – 19.00 h (4x45 min)
<b>1.</b>	<b>10 Sept.</b>	<i>Participants:</i> Group 5., 6., 7., 8. <i>Subject:</i> Obstetrical diagnostic examination of pregnant and parturient cows and mares: Conditions of obstetrical examinations. Examination of labor pains. Rectal and vaginal examinations. Examination of the cervix. Displacements of the gravid uterus. Methods to improve the effectivity of obstetrical aid-I. (Z. Szelényi)
	<b>17 Sept.</b>	<i>Participants:</i> Group 1., 2., 3., 4. <i>Subject:</i> Identical
<b>2.</b>	<b>24 Sept.</b>	<i>Participants:</i> Group 5., 6., 7., 8. <i>Subject:</i> Methods to improve the effectivity of obstetrical aid-II. Clinical examination of the foetus. Examination of the genital tract in cows, in consideration with ultrasonography (Z. Szelényi)
	<b>1 Oct.</b>	<i>Participants:</i> Group 1., 2., 3., 4. <i>Subject:</i> Identical
<b>3.</b>	<b>8 Oct.</b>	<i>Participants:</i> Group 5., 6., 7., 8. <i>Subject:</i> Instruments for obstetrical aid. Theory of forced extraction. Abnormal postures of the head and forelegs; ceasing of these abnormalities (cow, mare). (O. Szenci)
	<b>15 Oct.</b>	<i>Participants:</i> Group 1., 2., 3., 4. <i>Subject:</i> Identical
<b>4.</b>	<b>22 Oct.</b>	<i>Participants:</i> Group 5., 6., 7., 8. <i>Subject:</i> Abnormal postures of the hindlegs; abnormal positions and presentations; ceasing of these abnormalities (cow, mare). Introduction of different obstetrical cases (O. Szenci)
	<b>29 Nov.</b>	<i>Participants:</i> Group 1., 2., 3., 4. <i>Subject:</i> Identical
<b>5.</b>	<b>5 Nov.</b>	<i>Participants:</i> Group 5., 6., 7., 8. <i>Subject:</i> Application of the endocrine laboratory tests in the reproductive management: sample taking, handling of the samples, storage, transportation. Basic principle of the stimulation test (challenge test). Introduction of the progesterone ELISA test. On farm tests. (B. Somoskői)
	<b>12 Nov.</b>	<i>Participants:</i> Group 1., 2., 3., 4. <i>Subject:</i> Identical
<b>6.</b>	<b>19 Nov.</b>	<i>Participants:</i> Group 5., 6., 7., 8. <i>Subject:</i> Semen quality evaluation laboratory tests. Computer Assisted Semen Analysis (CASA). Investigation of the seminal plasma. production of the sex determined semen. Demonstration of different semen tests. (S. Cseh)
	<b>26 Nov.</b>	<i>Participants:</i> Group 1., 2., 3., 4. <i>Subject:</i> Identical
<p><b>Retake of plenaries:</b> (1-4): dr. Zoltán Szelényi - Üllő (5-6): According to later information / at the Dept (István street).</p>		

<b>MONDAYS</b>		<b>Small groups practicals</b> <i>Department and Clinic for Farm Animals, Üllő – 08:15 – by special shedule</i> Lecturers: Z. Szelényi, A. Horváth, A Csepreghy, L Lénárt)
<b>1.</b>	<b>9 Sept.</b>	<u>Participants:</u> Group 1., 2., 3., 4. <u>Subject:</u> Education for work safety. The female genital tract in cattle: introduction and demonstration on organs from slaughterhouse. The technique for clinical examination of the genital tract. Rectovaginal technique of intracervical catheterisation ( <i>demonstration and practice</i> ) I.
	<b>16 Sept.</b>	<u>Participants:</u> Group 5., 6., 7., 8. <u>Subject:</u> Identical
<b>2.</b>	<b>23 Sept.</b>	<u>Participants:</u> Group 1., 2., 3., 4. <u>Subject:</u> Clinical examination of the genital tract in cows. ( <i>practice</i> ) I.
	<b>30 Sept.</b>	<u>Participants:</u> Group 5., 6., 7., 8. <u>Subject:</u> Identical
<b>3.</b>	<b>07 Oct.</b>	<u>Participants:</u> Group 1., 2., 3., 4. <u>Subject:</u> Clinical examination of the genital tract in cows. Recto-vaginal technique of intracervical catheterisation ( <i>practice</i> ) II.
	<b>14 Oct.</b>	<u>Participants:</u> Group 5., 6., 7., 8. <u>Subject:</u> Identical
<b>4.</b>	<b>21 Oct.</b>	<u>Participants:</u> Group 1., 2., 3., 4. <u>Subject:</u> Clinical examination of the genital tract in cows. Recto-vaginal technique of intracervical catheterisation ( <i>practice</i> ) III.
	<b>28 Oct.</b>	<u>Participants:</u> Group 5., 6., 7., 8. <u>Subject:</u> Identical
<b>5.</b>	<b>4 Nov.</b>	<u>Participants:</u> Group 1., 2., 3., 4. <u>Subject:</u> Epidural anaesthesia ( <i>demonstration on mare and cow, practice on cow</i> ). Operative interventions on the bovine female genital tract (vaginal prolapse, episiotomy) ( <i>practice on organs from slaughterhouse</i> )
	<b>11 Nov.</b>	<u>Participants:</u> Group 5., 6., 7., 8. <u>Subject:</u> Identical
<b>6.</b>	<b>18 Nov.</b>	<u>Participants:</u> Group 1., 2., 3., 4. <u>Subject:</u> Total foetotomy in mare and cow ( <i>introduction and practice</i> )
	<b>25 Nov.</b>	<u>Participants:</u> Group 5., 6., 7., 8. <u>Subject:</u> Identical
<b>Retake of missed practicals:</b> Dr. Zoltán Szelényi - Üllő		

**Notes:** Students are requested to *be present according to their scheduled clinical days only* (changes are only possible if the student previously asked it from the lecturer) and to *wear white coat* (other colour is also accepted) and *rubber boots (disposable plastic boots, other shoes will not be allowed!)*. Participation will not be allowed without considering these prescriptions!

### **Large animal practicals held in Üllő:**

Trainers/clinicians of the farm animal clinic Üllő ask you to bring forceps, needle-holder, scalpel and scissors with yourself to the practicals.

**Mid-term examination** (written, multi-choice test):

**14 November 2019 Thursday 7:00 am** 1-4. gr. – TORMAY BÉLA lect. hall;  
5-8. gr. – HETZEL HENRIK lect. hall

Topics: lectures (1-9.); - practicals (1-4.); - plenaries (1-4.)

**Re-take of the missed midterm exam\*:** **27 November 2019 wednesday 7:00 h**

Obstetrics practical hall (building L first floor)

Topics: - lectures (1-11.); - practicals (1-5.); - plenaries (1-5.)

### **Preparation of the Diploma thesis**

For those students who prepare their diploma thesis at the Department of Obstetrics and Reproduction we warmly recommend to read carefully the information material provided by the Central Library of the Faculty

([http://konyvtar.univet.hu/?page\\_id=83&lang=en](http://konyvtar.univet.hu/?page_id=83&lang=en))

### **The order of duty at Small Animal Reproduction Clinic:**

1. No more than five students have a permission to participate in clinical work in examination room and/or operation room of reproduction clinic simultaneously. The order is first one first serve except the students in obligatory duty. Students have to wear a clean white cloth or any type of surgeon's cloth which haven't been used at clinic of infective patients, and at the Department of Pathology.
2. In the operation room the use of operation cap, mask and plastic foot-muff (all arranged by the students oneself) is obligatory.
3. The touch, feed, drink and take for a walk of the hospitalised patients is forbidden except the agreement of the doctor of duty at the Reproduction Clinic.

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\* Students who had missed mid-terms due to justified reasons or reached an insufficient result, are required to write a re-take midterm test. In case of absence without leave from the mid-term test or in case of failing the repeated test, the student is obliged to take a written exam during the exam period (containing all materials taught in the semester, including lectures, plenaries and practicals). This exam will give the note for the student. Justification of absence from the mid-term test must be transmitted personally by the student to the Secretariat of the Department.

## **Information on the neutering programme**

A Memorandum of Understanding was signed by the representatives of the University of Veterinary Science, the National Food Safety Office, and the Ministry of Rural Development in 2013. According to this agreement the clinical veterinarians of the Department and Clinic of Obstetrics and Reproduction have been neutering shelter dogs since the beginning of November 2013. The main goal of the program is to provide an opportunity for our students to improve their practical skills. Therefore students are encouraged to participate in the surgeries.

Operations are performed in the morning on each day from Monday to Thursday (2 operations per day), in order to raise the number of patients available for practical training. According to the Department's preliminary calculations it is predicted that our students will have the possibility to take part in at least three surgeries before finishing their study at the University.

We won't organize a schedule for visiting the surgeries, because the capacity of the operating theatre is limited, furthermore students from the 11<sup>th</sup> semester, Erasmus students, and those on shifts will have priorities over the volunteers for entering the room. Nevertheless, we hope that our students will seek the possibility to take part in the program and will participate in the surgeries voluntarily, if the operating theatre is not full.

Budapest, 6th of September, 2018

Prof. Dr. Cseh Sándor  
The Head of the Department  
and Clinic of Reproduction