**Detailed program of exercises “Andrology & Artificial Insemination”**

**IV year, 8th semester FVM, academic year 2018 - 2019**

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| No | Subject |  | Date |
| **1** | Evaluation of the morphological structure of male reproductive organs using preparations of isolated organs of the bull, and stallion. Catheterization exercises using phantoms and isolated female reproductive organs. | DD, EJK  MT, MS  RF, KSi  KZ, MD | 15.04.2019 |
| **2** | Clinical evaluation of male reproductive organs in large animals. Breeding soundness and sexual behavior, libido.  Laboratory diagnosis of infection diseases of the male. | DD, MS  MT, AN  RF, EK  KZ, JO | 15.04.2019 |
| **3** | Preparation of artificial vagina (AV) and electro ejaculator. Collection of semen and its macroscopic examination  Laboratory diagnosis of selected diseases of the testes and accessory glands in large and small animals.  Exercises will be held in the Biotechnology Laboratory and the Clinical biochemistry and Hematology Laboratory. | AN, RF  EK, KSi  KZ, DD  SG, MD | 29.04.2019 |
| **4** | Computer Assisted Sperm Analysis, functional tests of the spermatozoa, | RF, AN  EK, KSi  KZ, JO  SG, MD | 29.04.2019 |
| **5** | Clinical diagnosis of testes and accessory glands in small animals (physical examination, biopsy techniques, sonographic examination and other imaging techniques (MRI, CT). Exercise will be held at the clinic and Diagnostic Imaging Laboratory. | EK, MT  SG, DD  EJK, KZ  JO, AN | 06.05.2019 |
| **6.** | Techniques of cryoconservation of semen. Preparation of extender and extension of semen. Refrigeration and freezing of semen. | RF, AN  DD, JO  SG, KZ  EK, MT | 06.05.2019 |
| **7.** | A.I. equipment. Insemination techniques for chilled and frozen semen in large animals*.*  Technique of thawing semen. Handling and shipment of frozen semen and liquid nitrogen containers at field conditions **1st Test** | RF, MD  EK ,MT  EJK, DD  JO, SG | 13.05.2019 |
| **8.** | Artificial insemination in cow using phantoms and isolated female reproductive organs. | DD, MS  KZ, KSi  EK, MT  SG, MD | 13.05.2019 |
| **9.** | Genetic markers for the selection of sires  Molecular genetics techniques | EJK, AN  EK, JO  RF, KS  KZ, MD | 20.05.2019 |
| **10.** | Law and Regulation of the Minister of Agriculture and Rural Development and EU on the organization of breeding and biological material used in reproduction of farm animals  Other indications regarding artificial insemination of animals | DD, SG  EK, MS  RF, KSi  KZ, MD | 20.05.2019 |
| **11** | Visit to Animals Breeding and Reproduction Centre Ltd. at Łowicz. Planning and organization of artificial insemination of cattle.  Assessment and preparation of semen for freezing in the laboratory of the A.I. Centre. | DD, SG  AN, RF  EK, EJK  KSi, MT | 27.05.2019 |
| **12** | Preparation of semen for assisted reproductive techniques. Non-invasive selection of sperm  **2nd test** | RF, JO  AN, EJK  MS, KF  EK, MT | 27.05.2019 |
| **13** | Techniques of AI of mare. Deep Horn Insemination by endoscopy.  Assisted fertilization techniques: Preparation of semen for sperm selection, Intracytoplasmic sperm injection (ICSI) and Intracytoplasmic morphologically selected sperm injection (IMSI). | DD, MT  SG, EK  RF, AN  EJK, JO | 03.06.2019 |

**Exercises will be held Monday from 08:00 to 12:00 at Equine Clinic in Wolica.**

**Exercises 11 will be held at the Animals Breeding and Reproduction Centre Ltd. in Łowicz near Warsaw**

**Tests include material from exercises and lectures it will be realized on:**

**1st test – Monday 13th May, 2019**

**2nd test – Monday 27th May, 2019**

**EJK -** E. Jaszczuk KubiakPhD, DSc

**RF -** R. Faundez DVM, PhD

**SG** – S. Giziński DVM, PhD

**MD -** M. Domino MSc, DVM, PhD

**KSi** - K. Siewruk DVM, PhD

**DD -** D. Domańska DVM, PhD

**EK** - E. Kautz DVM, PhD

**MT** - M. Trela DVM

**KZ** - K. Zalewski DVM

**MS -** M. Sady DVM

**ŁZ -** Ł**.** Zdrojewski DVM

**KF -** K. Ferenc MSc, PhD

**AN -** Anna Niwińska., MSc

**JO** J. Olszewski Eng., MSc

**Students can obtain materials of lectures and exercises in the form of PDF files with multimedia presentations and selected chapters of textbooks and journal articles after the consent of the persons responsible for the exercises and lectures**

Ricardo Faundez DVM, PhD Zdzisław Gajewski DVM, PhD, DSc

Assistant professor Professor

Head of Department of Large Animal Diseases with Clinic