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| Module code | SEM9 PW 1G/2G CHIR EXP |
| Field of study | Veterinary medicine |
| Module name | Experimental surgery<br>Chirurgia eksperymentalna |
| Language of instruction | English |
| Module type | elective |
| Level of studies | Long-cycle Master's Degree studies |
| Mode of study | Full-time |
| Year of study in the field of study | V |
| Semester of study in the field of study | IX |
| ECTS credits, divided into contact/non-contact hours | 1 (0,67/0,33) |
| Academic title/degree, name of the person responsible for the module | Dr hab. n. vet. Tomasz Szponder |
| Unit teaching the module | Department and Clinic of Animal Surgery |
| Module objective | The aim of the module is to familiarize with selected animal models used in experimental surgery. Learning the diagnostic and surgical methods used in experimental surgery. Learning about the ways of anesthesia for laboratory and experimental animals. |
| The learning outcomes for the module include a description of the knowledge, skills and social competences that the student will gain after completing the module. | Knowledge: |
| | K1 Understands the principles of anesthesia and postoperative analgesia used in experimental animals |
| | K2. Knows the basic experimental models used in experimental surgery |
| | K3 Knows selected surgical methods and diagnostic procedures used in experimental surgery |
| | Skills: |
| | S1. Is able to decide on an appropriate method of anesthesia for experimental animals. |
| | S2. Is able to plan an experiential project using experimental animals by means of appropriate surgical techniques in a variety of animal species |
| | S3. Is able to monitor the course of an experiment and has the ability to evaluate experimental test results |
| | Social competences: |
| | Sc1. Is ready for directed further education and self-improvement in the field of experimental surgery. |
| | Sc2. Is prepared for taking ethical responsibility in the use of experimental animals for scientific purposes. |
| | Sc3. Is aware of the importance of social, professional and ethical responsibility for the health and welfare of experimental animals |
| Prerequisites and additional requirements | According to the sequence of subjects |

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| Module programme content | 1. Methods and techniques of anesthesia and palliative management in laboratory and experimental animals - 2 hrs.<br>2. Intensive care and postoperative care of experimental animals. Operative and postoperative monitoring- 2 hours.<br>3. Selected experimental surgical models involving the shell, digestive, respiratory, urinary, cardiovascular, and musculoskeletal systems in experimental animals - 2 hrs.<br>4. Selection of surgical equipment and implants and suture materials for research. - 2 hrs.<br>5. Minimally invasive surgical techniques -2 hrs.<br>6. Ways of collecting samples for examination - 2 hours.<br>7. Additional tests - techniques of performance and interpretation of results. Medical documentation of ongoing research- 2 hours. |
| List of core and supplementary literature | 1.M. Sirois: Laboratory Animal Medicine: principle and Procedures, Mosby 2004.<br>2. Denneman P: Anesthesia and Analgesia in Laboratory Animals, NY Academic Press, 2008.<br>3. Quesenberry K et al: Ferrets, rabbits and rodents. Clinical Medicine and Surgery, 3rd Edition, Saunders, 2011. |
| Planned forms/activities/teaching methods | Multimedia presentations, demonstrations of specialized equipment, practical classes, self-study |
| Verification methods and ways of documenting the achieved learning outcomes. | Verification of the achieved learning outcomes is obtained through evaluation of student activity during the classes (active - plus "+'', inactivity - minus "-''). A student should earn at least seven plus points (8 "+'') to receive credit for the module. In the practical part, students participate in surgical procedures, perform anesthesiological monitoring, etc. A student should earn at least seven plus points (7 "+'') to receive credit for this module. The final credit for a module is a sum of plus ('+') points of at least 15. In addition, attendance at at least 85% of the exercises in the module plan is required to pass the course.<br><br>The written final assessment consists of 25-30 single-choice test questions. Questions relate to material presented in class. A student is required to earn a minimum of 61% of the total possible points for the final exam to receive a passing grade.<br>The criteria used in the final evaluation are consistent with the Book of Education Quality |

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<tr><td>ECTS credits</td><td>
<table>
<tr><th colspan="3">CONTACT</th></tr>
<tr><td></td><td>Hours</td><td>ECTS</td></tr>
<tr><td>Practical classes</td><td>15</td><td>0.5</td></tr>
<tr><td>Consultations</td><td>3</td><td>0.1</td></tr>
<tr><td>credit pass/resit exam</td><td>2</td><td>0.07</td></tr>
<tr><td>TOTAL contact hours</td><td>20</td><td>0.67</td></tr>
<tr><th colspan="3">NON-CONTACT HOURS</th></tr>
<tr><td>preparation for classes</td><td>4</td><td>0.13</td></tr>
<tr><td>learning from books</td><td>2</td><td>0.07</td></tr>
<tr><td>exam preparation</td><td>4</td><td>0.13</td></tr>
<tr><td>TOTAL non-contact hours/ ECTS credits</td><td>10</td><td>0.33</td></tr>
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<table>
<tr><td>attendance at practical classes</td><td>15</td><td>0.5</td></tr>
<tr><td>Consultations</td><td>3</td><td>0.1</td></tr>
<tr><td>credit pass/resit exam</td><td>2</td><td>0.07</td></tr>
<tr><td>TOTAL with direct involvement of the teacher</td><td>20</td><td>0.67</td></tr>
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<tr><td>The workload of activities that require direct participation of an academic teacher</td><td>5 hrs. tutorials<br>10 hrs. laboratory classes<br>3 hrs. consultations<br>2 hrs. credit</td></tr>
<tr><td>Relation of module learning outcomes to major learning outcomes</td><td>W1 - WE_W10++<br>W2-WE_W16++<br>W3-WE_W18++<br>U1- WE_U24+++<br>U2-WE_U25++<br>U3-WE_U3++<br>K1-WE_K10++<br>K2-WE_K2+++<br>K3-WE_K13++</td></tr>
<tr><td>Elements and values affecting final grade</td><td>Final grade:<br>- attendance at classes - 5% weight<br>- active student participation in classes - 10% weight<br>- practical handling of experimental equipment and animals - 20% weight<br>- grade in test credit pass - 65% weight</td></tr>
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