

## **VETERINARY OPERATIVE SURGERY**

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| <b>School</b>               | <b>Veterinary Medicine</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Program</b>              | Doctor of Veterinary Medicine (DVM)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Module Title</b>         | Veterinary Surgery and Diagnostic Imaging                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Module Code</b>          | Vetm-M4151                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Module Coordinators</b>  | <b>Dr. Mulat A., Dr. Bethlehem A. and Dr. Tilahun B.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Course Title</b>         | <b>Veterinary Operative Surgery</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Course Code</b>          | Vetm4152                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Course Information</b>   | Year: IV<br>Semester: II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Course Credit</b>        | 5ECTS/3CrHr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Course Description</b>   | <p><b>Lecture:</b> It deals with the surgical correction of the integumentary system: skin, hoof, horns, tail, teats and udder, surgical intervention of eye and ear abnormalities, surgical management of upper respiratory, gastro-intestinal, urinary and reproductive tract disorders, and surgical management of musculo-skeletal accidents (fracture, dislocation, external and internal fixation of fractures and complications of fracture healing).</p> <p><b>Practical:</b> Demonstration of surgical instruments and packs for large and small animals. Evaluation of patient and preoperative preparations, methods of disbudding and dehorning, tail docking, tracheotomy, esophagotomy, ophthalmic surgery, castration and neutering, amputation of penis will be demonstrated. Exploratory laparotomy, trocharization/paracentesis, rumenotomy, correction of abomasal displacement, urethrotomy, caesarean section, management of rectal and uterine prolapses will be conducted.</p> |
| <b>Course Objectives</b>    | <p>At the end of the course students should:</p> <ul style="list-style-type: none"> <li>• Possess basic knowledge of surgical conditions involving different organs both in large and small animals</li> <li>• Be equipped with skills employed during surgical interventions in various body systems of domestic animals</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Prerequisite</b>         | Veterinary General Surgery and Anesthesiology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Mode of Delivery</b>     | Semester based/Parallel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Status of The Course</b> | Core                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Expectation</b>          | <p>Students are expected to:</p> <ul style="list-style-type: none"> <li>• Come to class prepared with appropriate materials</li> <li>• Complete reading assignments and other activities on time</li> <li>• Plan their own learning</li> <li>• Work hard individually to meet the requirement of the course</li> <li>• Use their time for group work and home study effectively</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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|                                  | <ul style="list-style-type: none"> <li>• Make active participation during discussions (must participate in class)</li> <li>• Give constructive feedback to partners/group members and to listen to their comments</li> <li>• Attend 100% of all scheduled classes and other activities.</li> <li>• Be punctual at all sessions.</li> </ul> |         |               |               |       |
| <b>Learning Teaching Methods</b> | Lecture, practical demonstration, case presentation, assignments, presentations                                                                                                                                                                                                                                                            |         |               |               |       |
| <b>Assessment Methods</b>        | <b>Continuous assessment: 50%</b> <ul style="list-style-type: none"> <li>➤ Tests/quizzes</li> <li>➤ Assignments (individual or group)</li> <li>➤ Presentations</li> <li>➤ Practical/oral exam</li> </ul> <b>Final examination: 50 %</b>                                                                                                    |         |               |               |       |
| <b>Students' Work Load</b>       | ECTS                                                                                                                                                                                                                                                                                                                                       | Lecture | Lab/practical | Private study | Total |
|                                  | 5                                                                                                                                                                                                                                                                                                                                          | 32      | 48            | 55            | 135   |
| <b>Policy</b>                    | As per the guidelines of the University's senate legislation                                                                                                                                                                                                                                                                               |         |               |               |       |

#### Schedule:

| Week       | Activities and hours required          | Topics to be covered                                                                                                                                                                                                                                                                                                            |
|------------|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>I</b>   | lecture<br>discussion<br><br>practical | 1. Surgery of head and neck<br>1.1. Dehorning in cattle, congenital abnormalities, irregular molars, shear mouth, sharp teeth,<br>Demonstration of dehorning in cattle and goats                                                                                                                                                |
| <b>II</b>  | lecture<br>discussion<br><br>practical | 1.2. Operation for aural haematoma in dogs, Cropping of ear in dogs, Lateral ear resection (Zepp's method in dogs), Operation for entropion and ectropion, Extirpation of eyeball in cattle, horse and dogs, Yolk gall, Yolk abscess, Yolk tumours<br>Demonstration of cropping of ear in dogs, extirpation of eyeball in goats |
| <b>III</b> | lecture<br>discussion<br><br>practical | 1.3. Trephining of frontal and maxillary sinuses in horse and cattle<br>1.4. Tracheotomy in cattle and dog<br>Demonstration of tracheotomy in goats                                                                                                                                                                             |
| <b>IV</b>  | lecture<br>discussion                  | 2. Surgery of thorax<br>2.1. Diaphragmatic hernia in cattle and dog<br>2.2. Cervical esophagotomy in cattle horse and dog                                                                                                                                                                                                       |
|            | practical                              | Demonstration of cervical esophagotomy in goat                                                                                                                                                                                                                                                                                  |
| <b>V</b>   | lecture                                | 3. Surgery of abdomen                                                                                                                                                                                                                                                                                                           |

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|                       | discussion                                   | 3.1. Laparotomy (Celiotomy) in dog and cattle<br>3.2. Rumenotomy in cattle<br>3.3. Gastrotomy in dog<br>3.4. Abomasopexy for left and right displacement of abomasum in cow                                                                                                                                           |
|                       | practical                                    | Laparotomy in goat                                                                                                                                                                                                                                                                                                    |
| <b>VI</b>             | lecture<br>discussion<br><br>3 hrs practical | 3.5. Enterotomy in dog<br>3.6. End to end anastomosis of intestine in dog<br>3.7. Amputation of rectum in cow<br>3.8. Surgical management of atresia ani and atresia ani et recti<br>3.9. Extirpation of anal sac in dog<br>Demonstration of rumenotomy in goat or cattle                                             |
| <b>VII</b>            | lecture<br>discussion<br>practical           | 3.10. Repair of ventral hernia in cow and horse<br>3.11. Repair of perineal hernia in dog<br>Demonstration of gastrotomy in dog                                                                                                                                                                                       |
| <b>VIII</b>           | lecture<br>discussion<br><br>practical       | 4. Surgery of locomotor organs and musculoskeletal system<br>4.1. Amputation of tail<br>4.2. Application of plaster cast on limbs in dog and large animal<br>4.3. Application of modified Thomas splint<br>4.4. Internal immobilization of long bone fractures in large animals<br>Demonstration of enterotomy in dog |
| <b>IX</b>             | lecture<br>0.5 hr discussion                 | 4.5. Bone plating of radius in dog<br>4.6. Amputation of dew claws in dog<br>4.7. Amputation of forelimb in dog<br>4.8. Intramedullary pinning of tibia in dogs                                                                                                                                                       |
|                       | practical                                    | Amputation of tail                                                                                                                                                                                                                                                                                                    |
| <b>X</b>              | lecture<br>discussion<br><br>practical       | 4.9. Surgical approaches to the shaft of humerus and femur in dog<br>4.10. Amputation of hind limb in dog<br>4.11. Superficial/ deep flexor tenotomy in horse and cattle<br>4.12. Medial patellar desmotomy in cattle<br>Extripation of anal sac in dog                                                               |
| <b>XI</b>             | lecture<br>discussion<br><br>practical       | 5. Surgery on urogenital organs of male and female animals, kidneys urethras, urinary bladder<br>5.1. Cystotomy in dogs, urethrotomy in dogs, cystotomy in cattle, urethrotomy in bullock/ bull.<br>Urethrotomy/penile amputation in bull                                                                             |
| <b>XII &amp; XIII</b> | lecture<br>discussion                        | 5.2. Castration in bull, horse and dogs, repair of inguinal/ scrotal hernia in bull and horse<br>5.3. Ovariohysterectomy in dogs, caesarean section in dog and cow, episiotomy in dog and cow                                                                                                                         |

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|            | examination<br>practical           | 3rd Examination<br>Castration in horse, cat and bull                                                                                                      |
| <b>XIV</b> | lecture<br>discussion<br>practical | 5.4. Caslick's vulvoplasty in mares, Repair of vaginal and uterine prolapse in cow.<br>Ovariohysterectomy in bitch                                        |
| <b>XV</b>  | lecture<br>discussion              | <b>6. Tumors</b><br>6.1. Mammary tumors in bitches,<br>6.2. Canine Transmissible Venereal Tumors (CTVT/ TVT)<br><br><b>Oral and practical examination</b> |
| <b>XVI</b> |                                    | Final examination                                                                                                                                         |

### Module and course evaluation:

Peer review and questionnaire-based opinion survey involving the students, alumni and employers, analysis of assessment results.

### References

- Bojrab, M.J. 1998. Current Techniques in Small Animal Surgery. 4th Ed. Lea & Febiger, Philadelphia, USA.
- Fossum, T.W. 1997. Small Animal Surgery. Mosby Year Book Inc., Philadelphia, USA.
- Slatter, D.H. 1991. Textbook of Small Animal Surgery. 2nd Ed. W.B. Saunders Co., Philadelphia, USA.
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- Knecht, C.D., A. R. Allen, D.J. Williams, and J.H. Johnson, 1987. Fundamental Techniques in Veterinary Surgery. 3rd Ed. W.B. Saunders Co., Philadelphia, USA.
- Turner, A.S., and C.W. McIlwraith. 1994. Techniques in Large Animal Surgery. 2nd Ed., Lea & Febiger, Philadelphia, USA.
- Oehme, F.W., and J.E. Prier. 1988. Textbook of Large Animal Surgery. 2nd Ed., Williams and Wilkins, Baltimore, London, UK.
- Kohn, D.F., Wixon, S.K., White, W.J., and Benson, G.J. (editors) 1997. Anesthesia and Analgesia in Laboratory Animals. American College of Laboratory Animal Medicine Series. Academic press, New York