# Specification for Small Ruminant and Camel Medicine course 2025/2026

## 1-Basic information

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|---|---|---|---|---|---|---|---|---|---|
| **1.** | **Course title** | Internal medicine (Small Ruminant and Camel Medicine) | | | | | | | |
| **2.** | **Course code** | **503 (A) III** | | | | | | | |
| **3.** | **Department offering the course** | Animal Medicine | | | | | | | |
| **4.** | **Number of hours** | **Theoretical** | **2** | **Practical** | **3** | **Other** | **0** | **Total** | **5** |
| **5.** | **Course Type** | √ **Obligatory** **Elective** | | | | | | | |
| **6.** | **Level** | 5th year | | | | | | | |
| **7.** | **Semester** | First semester | | | | | | | |
| **8.** | **Academic program** | Bachelor Veterinary medicine (BVM) | | | | | | | |
| **9.** | **Faculty** | Faculty of Veterinary medicine | | | | | | | |
| **10.** | **University** | Benha University | | | | | | | |
| **11.** | **Name of course coordinator** | Prof. Dr. Mohamed Meselhy zaineldin | | | | | | | |
| **12.** | **Course Specification Approval Date** | Faculty council/ 27-8-2025 | | | | | | | |
| **13.** | **Course Specification Approval (Attach the decision/minutes of the department /committee/council ....)** | Department council/ | | | | | | | |

## 2-Course overview

- **Course contents written in the program bylaw:**
  General medicine of small ruminant and camel, diseases of digestive system, cardiovascular system, respiratory diseases, urinary system, skin of sheep and goat. Metabolic diseases of sheep and goat and nutritional deficinacy diseases of sheep and goat. Diseases affecting digestive and respiratory system, skin and urinary system in camel.

## 3- Intended learning outcomes of the course (ILOs):

| | **NARS ILOS** | | **Course ILOS** | |
|---|---|---|---|---|
| | **Code** | **Text** | **Code** | **Text** |
| **Knowledge and understanding** | **2.5.** | Principle of welfare, production and health maintenance of food | **a1** | Describe the function and anatomy of different organs of Small Ruminant and Camel. |

| | | | | |
|---|---|---|---|---|
| | | producing and pet animals, sporting animals, wildlife , poultry and fish | | |
| | **2.6.** | Basics of nutrition and feeding practices of healthy and diseased animals. | **a2** | Define different diseases affecting Small Ruminant and Camel. |
| | | | **a3** | Nominate the system affected then the organ within the system. |
| | **2.10** | Toxicology and forensic medicine, animal medicine, theriogenology and veterinary surgery | **a4** | Identify the cause-disease interaction through the pathogenesis |
| | **2.11** | The most appropriate diagnosis and differential diagnosis of animals, poultry and fish diseases | **a5** | Conduct differential diagnosis between related diseases |
| | | | **a6** | Designate the general state disorders Small Ruminant and Camel. |
| | | | **a7** | List a treatment schedule for each disease with regard to type of drug, effective dose and time of dosing. |
| | | | **a8** | Describe a protocol for prevention and control of Small Ruminant and Camel diseases |
| **Intellectual skills** | **4.3** | Inculcate a rigorous approach to problem identification and solving. | **b1** | Plan a differential diagnosis based on clinical signs. |
| | | | **b2** | Determine inter-relation between system affections. |
| | **4.4.** | Proficiently secure diagnostic reasoning, develop problem lists and differential diagnosis in order to deductively and critically reach the most appropriate solution (s) and management of the addressed clinical problems. | **b3** | Determine the type other diagnostic aids used in diagnosis. |
| | | | **b4** | Decide on the appropriate treatment for each disease |
| | **4.5.** | Remain committed to life – long learning and updating / upgrading their biochemical sense and clinical skills. | **b5** | Read and comment the diagnostic tools and reports |
| | | | **b6** | Judge on giving a decision for either medical or surgical intervention |
| **Practical skills** | **3.2.** | Safely, correctly and | **c2** | Conduct clinical and physical |

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|---|---|---|---|---|
| | | humanely restrain animals for examination. | | examinations of diseases of Small Ruminant and Camel |
| | **3.3** | Obtain the history of the case whether it is of an individual animal or a group of animals | **c1** | Take a case history from owner of Small Ruminant and Camel patient professionally. |
| | **3.5** | Appropriately select and interpret findings of the common clinical and laboratory diagnostic procedures to reach and adopt the most convenient therapeutic and manage mental approach | **c3** | Collect samples for lab diagnosis. |
| | **3.7.** | Assess and advise about animal management, nutrition under conditions of health and disease, and reproductive efficiency | **c4** | Treat diseases by drug injection by various routes of administration. |
| | **3.9** | Conduct evidence-based problem-solving of field–presented problems tasks | | |
| | **3.10.** | Provide emergency care to all species of animals. | | |
| | **3.11.** | Utilize appropriate safety procedures to protect clients and co-workers. | | |
| **Transferable skills** | **5.1** | Work under pressure and / or contradictory conditions | **d1** | Work under pressure during lab session. |
| | **5.2** | Function in a multidisciplinary team | **d2** | Work in a team during the diagnosis process. |
| | **5.3** | Communicate appropriately verbally and nonverbally | **d3** | Communicate & Cooperate with other colleagues for reaching diagnosis. |
| | **5.5** | Search for new information and technology as well as adopt life–long self-learning ethics | **d4** | Search for new information in the field of medicine. |

## 4- Teaching and learning methods

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|---|---|---|---|---|---|
| **Lectures** | √ | **Discussion & seminar (self-learning)** | √ | **Practical** | √ |
| **Presentation & movies** | √ | **Problem solving** | √ | **Brain storming** | √ |
| **Others** | **Field training - projects** | | | | |

## - Course contents:

| Number of the Week | Scientific content of the course (Course Topics) | Expected number of the Learning Hours | | | | |
|---|---|---|---|---|---|---|
| | | Total Weekly hours | Theoretical teaching (lectures/discussion groups/ .....) | Training (Practical/ Clinical/ .....) | Self-learning (Tasks/ Assignments/ Projects/ ...) | Other |
| W1 | General Medicine of small ruminant and camel | 5 | 2 | 0 | | 0 |
| | General examination of sheep and goat | | 0 | 3 | | 0 |
| W2 | Diseases of digestive system in sheep and goat | 5 | 2 | 0 | | 0 |
| | General examination of sheep and goat | | 0 | 3 | | 0 |
| W3 | Diseases of digestive system in sheep and goat | 5 | 2 | 0 | Formative quiz(self-learning) | 0 |
| | Clinical examination of digestive system of sheep and goat | | 0 | 3 | | 0 |
| W4 | Diseases of respiratory system in sheep and goat | 5 | 2 | 0 | | 0 |
| | Clinical examination of respiratory system of sheep and goat | | 0 | 3 | | 0 |
| W5 | Diseases of respiratory system in sheep and goat | 5 | 2 | 0 | | 0 |
| | Clinical examination of respiratory system of sheep and goat 1 | | 0 | 3 | | 0 |
| W6 | Metabolic diseases in sheep and goat | 5 | 2 | 0 | Formative quiz(self-learning) | 0 |
| | Clinical examination of respiratory system of sheep and goat 2 | | 0 | 3 | | 0 |
| W7 | **Semester works and Mid-term exam** | | | | | |
| W8 | Diseases of cardiovascular system in sheep and goat | 5 | 2 | 0 | | 0 |
| | Clinical examination of cardiovascular system of sheep and goat | | 0 | 3 | | 0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **W9** | Disease of urinary system in sheep and goat | **5** | **2** | **0** | | **0** |
| | Clinical examination of urinary system of sheep and goat | | **0** | **3** | | **0** |
| **W10** | Diseases of skin in sheep and goat | **5** | **2** | **0** | **Formative quiz(self-learning)** | **0** |
| | Clinical examination of skin of sheep and goat | | **0** | **3** | | **0** |
| **W11** | Nutritional deficiency diseases in sheep and goat | **5** | **2** | **0** | | **0** |
| | Clinical examination nutrional disease | | **0** | **3** | | **0** |
| **W12** | Diseases affecting digestive and respiratory system in camel | **5** | **2** | **0** | | **0** |
| | Clinical examination of respiratory system of | | **0** | **3** | | **0** |
| **W13** | Diseases affecting urinary system and skin in camel | **5** | **2** | **0** | **Formative quiz(self-learning)** | **0** |
| | Laboratory examination of feces and ruminal juice | | **0** | **3** | | **0** |
| **W14** | Diseases of skin in camel | **5** | **2** | **0** | | **0** |
| | Laboratory examination of feces and ruminal juice | | **0** | **3** | | **0** |
| **W15** | **Practical exam** | | | | | |

## 5- Assessment timing and grading:

### a- Assessment methods (summative and formative)

1. **Formative assessment**: including (weekly quizzes, homework assignments and surveys).
2. **Summative assessment** including (quizzes, class activates, Mid-term exam, practical exam, oral exams and final written exams).

### b- Assessment schedule and weight

| Assessment method | Timing | Grade | Percent |
|---|---|---|---|
| **Mid-term exam** | 7th week | 15 | 15% |
| **Formative assessment** | Throughout semester | - | - |
| **Practical exam** | 15th week | 20 | 20% |
| **oral exam** | End of semester | 15 | 15% |
| **Written exam** | End of semester | 50 | 50% |
| **Total** | | 100 | 100 |

## 6- Learning resources and supportive facilities:

| | | |
|---|---|---|
| **Learning resources** | **Main reference** | **Student handbook** |
| | **Essential books (text books)** | • Philip R Scott (2010) Sheep Medicine.<br>• Richard W. Nelson (2009) Small Animal Internal Medicine.<br>• Michael D. Lorenz, T. Mark (2009) Small animal medical diagnosis |
| | **Periodicals, Web sites, . . . etc** | • Journal of Animal Science.<br>• Research on Veterinary Science<br>• Journal of American Veterinary Medical Association<br>• American Journal of Veterinary Research<br>• Tropical animal health and production<br>• Preventive veterinary Medicine<br>• Benha veterinary medical journal<br>• http://www.ivis.org<br>• http://www.merckvetmanual.com/mvm/index.jsp<br>• www.drghanem.co.nr<br>• www.ekb.eg |
| | **Learning platform** | Thinqi |
| **supportive facilities** | **Devices & instruments** | Devices<br>Ultrasound machine<br>ECG machine<br>Centrifuge<br>digital balance<br>Instruments<br>urinary catheters<br>stomach tube<br>mine detector<br>Medical stethoscope<br>Thermometer |
| | | • Teaching hall (data show, white board).<br>• Equipped laboratory of veterinary medical diagnosis (Medical stethoscope and thermometer- Ultrasonography- Electrocardiograph (ECG)).<br>• Samples of veterinary drug.<br>• Veterinary hospital<br>• Educational farm for conducting the clinical examination of animals . |

## Matrices:

### A- Content and ILOs matrix:

| Topic | A) Knowledge and | B) Intellectual | C) Professional and | D) General and |
|---|---|---|---|---|

| | understanding | skills | practical skills | transferable skills |
|---|---|---|---|---|
| General Medicine of small ruminant and camel | **a4, a6** | **b1, b2,b3, b4** | **c1, c2 , c3, c4** | **d1, d2,** |
| Diseases of digestive system in sheep and goat | **a1, a2, a3, a5, a7, a8** | **b1, b2,b3, b4, b5** | **c1, c2 , c3, c4, c5** | **d1, d2, d3,d4,** |
| Diseases of respiratory system in sheep and goat | **a1, a2, a3, a5** | **b1, b2,b3, b4, b5** | **c1, c2 , c3, c4, c5** | **d1, d2, d3,d4,** |
| Metabolic diseases in sheep and goat | **a1, a2, a3** | **b1, b2,b3** | **c1, c2 , c3, c4, c5** | **d1, d2, d3,d4** |
| Diseases of cardiovascular system in sheep and goat | **a1, a2, a3, a5, a7, a8** | **b1, b2,b3, b4, b5** | **c1, c2 , c3, c4, c5** | **d1, d2, d3, d4** |
| Disease of urinary system in sheep and goat | **a1, a2, a3, a5** | **b1, b2,b3, b4, b5** | **c1, c2 , c3, c4, c5** | **d1, d2, d3, d4** |
| Nutritional deficiency diseases in sheep and goat | **a1, a2, a3** | **b1, b2,b3** | **c1, c2 , c3, c4, c5** | **d1, d2, d3, d4,** |
| Diseases of skin in sheep and goat | **a1, a2, a3** | **b1, b2,b3** | **c1, c2 , c3, c4** | **d1, d2, d3, d4** |
| Diseases affecting digestive and respiratory system in camel | **a1, a2, a3, a5, a7, a8** | **b1, b2,b3, b4, b5** | **c1, c2 , c3, c4** | **d1, d2, d3, d4** |
| Diseases affecting urinary system and skin in camel | **a1, a6** | **b1, b2,b3, b4, b5** | **c1, c2 , c3, c4** | **d1, d2, d3, d4,d5** |
| Diseases of skin in camel | **a1, a2, a3** | **b1, b2,b3** | **c1, c2 , c3, c4** | **d1, d2, d3, d4,d5** |
| General examination of sheep and goat | **a1, a2, a3, a5** | **b1, b2,b3, b4, b5** | **c1, c2 , c3, c4** | **d1, d2, d3, d4,d5** |
| Clinical examination of digestive system of sheep and goat | **a1, a2, a3, a5** | **b1, b2,b3, b4, b5** | **c1, c2 , c3, c4** | **d1, d2, d3, d4,d5** |
| Clinical examination of respiratory system of sheep and goat | **a1, a2, a3, a5** | **b1, b2,b3, b4, b5** | **c1, c2 , c3, c4** | **d1, d2, d3, d4,d5** |
| Clinical examination of cardiovascular system of sheep and goat | **a1, a2, a3, a5** | **b1, b2,b3, b4, b5** | **c1, c2 , c3, c4** | **d1, d2, d3, d4,d5** |
| Clinical examination of respiratory system of sheep and goat | **a1, a2, a3, a5** | **b1, b2,b3, b4, b5** | **c1, c2 , c3, c4** | **d1, d2, d3, d4,d5** |
| Clinical examination of nervous system of sheep and goat | **a1, a2, a3, a5** | **b1, b2,b3, b4, b5** | **c1, c2 , c3, c4** | **d2, d3** |

## B- Teaching and learning methods and ILOs matrix:

| Course ILOs | | Teaching and Learning methods | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | L | P&M | D&S | P(TPL) | Ps | Bs | FTP |
| Knowledge & understanding | a1 | √ | √ | √ | | | √ | |
| | a2 | √ | √ | √ | | | √ | |
| | a3 | √ | √ | √ | | | √ | |
| | a4 | √ | √ | √ | | | √ | |
| | a5 | √ | √ | √ | | | √ | |
| | a6 | √ | √ | √ | | | √ | |
| | a7 | √ | √ | √ | | | √ | |
| | a8 | √ | √ | √ | | | √ | |
| Intellectual skills | b1 | √ | √ | √ | | √ | √ | √ |
| | b2 | √ | √ | √ | | √ | √ | √ |
| | b3 | √ | √ | √ | | √ | √ | √ |
| | b4 | √ | √ | √ | | √ | √ | √ |
| | b5 | √ | √ | √ | | √ | √ | √ |
| | b6 | √ | √ | √ | | √ | √ | √ |
| Professional and practical skills | c1 | | √ | √ | √ | √ | | √ |
| | c2 | | √ | √ | √ | √ | | √ |
| | c3 | | √ | √ | √ | √ | | √ |
| | c4 | | √ | √ | √ | √ | | √ |
| | c5 | | √ | √ | √ | √ | | √ |
| General skills | d1 | √ | | √ | | √ | | √ |
| | d2 | √ | | √ | √ | | | √ |
| | d3 | | | √ | √ | | | √ |
| | d4 | | √ | √ | | | | √ |

**L:** Lecture**, P&M:** Presentations & Movies**, D&S:** Discussions & Seminars (self-learning), **P(TPL):** Practical, **Ps:** Problem solving, **Bs:** Brain storming**, FTP:** field trip, Training, Project

## C- Assessment methods and ILOs matrix:

| Course ILOs | | assessment method | | | | |
|---|---|---|---|---|---|---|
| | | Formative assessment | Mid-term exam | Oral | Practical | Written |
| Knowledge & understanding | a1 | √ | √ | √ | | √ |
| | a2 | √ | √ | √ | | √ |
| | a3 | √ | √ | √ | | √ |
| | a4 | √ | √ | √ | | √ |
| | a5 | √ | √ | √ | | √ |
| | a6 | √ | √ | √ | | √ |
| | a7 | √ | √ | √ | | √ |

| | | | | | | |
|---|---|---|---|---|---|---|
| | a8 | √ | √ | √ | | √ |
| Intellectual skills | b1 | √ | √ | √ | | √ |
| | b2 | √ | √ | √ | | √ |
| | b3 | √ | √ | √ | | √ |
| | b4 | √ | √ | √ | | √ |
| | b5 | √ | √ | √ | | √ |
| | b6 | √ | √ | √ | | √ |
| Professional and practical skills | c1 | √ | | | √ | |
| | c2 | √ | | | √ | |
| | c3 | √ | | | √ | |
| | c4 | √ | | | √ | |
| | c5 | √ | | | √ | |
| General skills | d1 | √ | | | | |
| | d2 | √ | | | | |
| | d3 | √ | | √ | | |
| | d4 | √ | | | | |

**Name and Signature**
**Course Coordinator**

**Prof. Dr. Mohamed Meselhy Zaineldin**

**Name and Signature**
**Program Coordinator**

**Prof. Dr. Mahmoud Abouelroos**