

**VETERINARY CLINICAL MEDICINE, ETHICS AND JURISPRUDENCE**

**Course Contents**

<b>CODE</b>	<b>COURSE TITLE</b>	<b>CREDITS</b>
<b>VCM 601</b>	RUMINANT CLINICAL MEDICINE -I	2+0
<b>VCM 602</b>	RUMINANT CLINICAL MEDICINE -II	2+0
<b>VCM 603</b>	EQUINE CLINICAL MEDICINE	2+0
<b>VCM 604</b>	CANINE AND FELINE CLINICAL MEDICINE	2+0
<b>VCM 605</b>	SWINE CLINICAL MEDICINE	1+0
<b>VCM 606</b>	AVIAN MEDICINE	1+0
<b>VCM 607</b>	ZOO, WILD & LABORATORY ANIMAL MEDICINE	2+0
<b>VCM 608</b>	CLINICAL DISEASES OF ANIMAL SPECIES*OF REGIONAL IMPORTANCE	1+0
<b>VCM 609</b>	PRODUCTION DISEASES	2+0
<b>VCM 610</b>	DISEASES OF ANIMALS CAUSED BY TOXICANTS	1+0
<b>VCM 611</b>	VETERINARY FORENSIC MEDICINE	1+1
<b>VCM 612</b>	CLINICAL DIAGNOSTIC TECHNIQUES	0+2
<b>VCM 613</b>	VETERINARY EMERGENCY MEDICINE	0+2
<b>VCM 614</b>	CLINICAL PRACTICE I	0+3
<b>VCM 615</b>	CLINICAL PRACTICE II	0+3
<b>VCM 691</b>	ASTER'S SEMINAR	1+0
<b>VCM 699</b>	MASTER'S RESEARCH	20
<b>VCM 701</b>	ADVANCES IN GASTROENTROLOGY	2+1
<b>VCM 702</b>	ADVANCES IN CARDIOPULMONARY MEDICINE	2+0
<b>VCM 703</b>	ADVANCES IN NEUROLOGICAL AND UROLOGICAL DISORDERS	2+0
<b>VCM 704</b>	ADVANCES IN ENDOCRINE AND DERMATOLOGICAL DISORDERS	2+0
<b>VCM 705</b>	ADVANCES IN PRODUCTION DISEASES	2+0
<b>VCM 706</b>	ADVANCES IN PAEDIATRICS AND GERIATRICS	1+0
<b>VCM 707</b>	ADVANCES IN VETERINARY DIAGNOSTICS	1+2
<b>VCM 708</b>	ADVANCES IN VETERINARY THERAPEUTICS	1+2
<b>VCM 709</b>	ADVANCED CLINICAL PRACTICE I	0+2
<b>VCM 710</b>	ADVANCED CLINICAL PRACTICE II	0+2
<b>VCM 711</b>	ADVANCED CLINICAL PRACTICE III	0+2
<b>VCM 790</b>	SPECIAL PROBLEM	0+2
<b>VCM 791</b>	DOCTORAL SEMINAR I	1+0
<b>VCM 792</b>	DOCTORAL SEMINAR II	1+0
<b>VCM 799</b>	DOCTORAL RESEARCH	45

**VCM 601: RUMINANT CLINICAL MEDICINE – I**

**2+0**

**Objective:** Study of diseases of various body systems of bovine, sheep and goats.

**Theory**

**UNIT I**

General systemic states.

**UNIT II**

Diseases of alimentary system, liver and urinary system.

**UNIT III**

Diseases of respiratory and nervous system.

**Suggested Readings**

Chakrabarti A. 1998. *Text Book of Clinical Veterinary Medicine*. Kalyani. Radostits OM, Gay CC, Blood DC & Hinchcliff KW. 2000. *Veterinary Medicine*. WB Saunders.

**VCM 602: RUMINANT CLINICAL MEDICINE – II**

**2+0**

**Objective:** Study of diseases of various body systems of bovine, sheep and goats.

**Theory**

**UNIT I**

Diseases of cardiovascular system, blood and blood forming organs.

**UNIT II**

Diseases of musculoskeletal system and skin

**UNIT III**

Diseases of eyes, ears, nose

**Suggested Readings**

Chakrabarti A. 1998. *Text Book of Clinical Veterinary Medicine*. Kalyani. Radostits OM, Gay CC, Blood DC & Hinchcliff KW. 2000. *Veterinary Medicine*. WB Saunders.

**VCM 603: EQUINE CLINICAL MEDICINE****2+0****Objective:** Study of diseases of various body systems of horses, donkeys and mules.**Theory****UNIT I**

General systemic states and diseases of alimentary system and liver.

**UNIT II**

Diseases of respiratory, cardiovascular system, blood and blood forming organs

**UNIT III**

Diseases of urinary and nervous systems

**UNIT IV**

Diseases of musculoskeletal system and skin.

**Suggested Books**Wintzer H. 1986. *Equine diseases*. Verlag Paul Parey.Radostits OM, Gay CC, Blood DC & Hinchcliff KW. 2000. *Veterinary Medicine*. WB Saunders.**VCM 604: CANINE AND FELINE CLINICAL MEDICINE****2+0****Objective:** Study of diseases of various body systems of dogs and cats.**Theory****UNIT I**

Specific needs of canine and felines, Pet psychology; pet behavior and adaptation needs; General systemic states. And

**UNIT II**

Diseases of digestive system, liver and pancreas, cardiovascular system, blood and blood-forming organs,

**UNIT III**

Diseases of respiratory system, urogenital and nervous systems.

**UNIT IV**

Diseases of musculoskeletal system and skin.

**UNIT V**

Diseases of endocrine system, diseases of new borne animals.

**Suggested Books**Dunn JK. 1999. *Text Book of Small Animal Medicine*. WB Saunders. Ettinger SJ & Feldman EC. 2000. *Text Book of Veterinary Internal Medicine*. Vols. I, II. Saunders. Gorman NT. 1998. *Canine Medicine and Therapeutics*. Blackwell.**VCM 605: SWINE CLINICAL MEDICINE****1+0****Objective:** Study of diseases of various body systems in swine.**Theory****UNIT I**

General systemic states and diseases of digestive system

**UNIT II**

Diseases of cardiovascular and respiratory system.

**UNIT III**

Diseases of urogenital and nervous system and skin.

**UNIT IV**

Diseases of endocrine system and of newborn animals.

**Suggested Readings**Radostits OM, Gay CC, Blood DC & Hinchcliff KW. 2000. *Veterinary Medicine*. WB Saunders.Straw BF. (Eds.). 1999. *Diseases of Swine*. 8<sup>th</sup> Ed. Iowa State Univ. Press.**VCM 606: AVIAN MEDICINE****1+0****Objective:** Study of non-infectious diseases of avian species.**Theory****UNIT I**

Diseases due to deficiency of vitamins (vitamins A, B complex, C, D, K); minerals (calcium, phosphorus, manganese, zinc) and sodium chloride.

**UNIT II**

Miscellaneous diseases/conditions/ vices (cage layer fatigue, blue comb disease, beak necrosis, round heart disease, kerato- conjunctivitis, ascites, urolithiasis, fatty liver, kidney hemorrhagic syndrome, heat stroke, cannibalism, vent picking).

**Suggested Readings**

Gordon RF & Jordan ETW. 1982. *Poultry Diseases*.

ELBS. Leeson S, Diaz G & Summers JD. 2001. *Poultry Metabolic Disorders and Mycotoxins*. IBDC Publ.

**VCM 607: ZOO, WILD AND LABORATORY ANIMAL MEDICINE****2+0**

**Objective:** Study of diseases and health management of zoo, wild and laboratory animals

**Theory****UNIT I**

Etiology, symptoms, diagnosis and management of various diseases of zoo, wild and laboratory animals. Diseases of urinary system.

**UNIT II**

Diseases, restraint, feeding and health management of exotic animals kept as pets

**Suggested Readings**

Baker HJ. 1978. *Pathology of Laboratory Animals*. Springer, New York. Fowler ME. 1986. *Zoo and Wild Animal Medicine*. 2<sup>nd</sup> Ed. W. B. Saunders.

Fox JG, Anderson LC, Loew FM & Quimby FW. (Eds.). 2004. *Laboratory Animal Medicine*. 2<sup>nd</sup> Ed. Hafez ESE. (Ed.). *Reproduction and Breeding Techniques for Laboratory Animals*.

Lea & Fabiger. Hrapkiewicz K. 2007. *Clinical Laboratory Animal Medicine- An Introduction*. 3<sup>rd</sup> Ed. Blackwell Publ.

Joshi BP. 1991. *Wild Animal Medicine*. Kalyani.

Sirois M. 2005. *Laboratory Animal Medicine: Principles and Procedures*. 2<sup>nd</sup> Ed. Elsevier.

**VCM 608: CLINICAL DISEASES OF ANIMAL SPECIES OF REGIONAL IMPORTANCE****1+0**

**Objective:** Study of non-infectious diseases of important regional animal species.

**Theory**

The animal species, to be studied/ taught is to be decided by the individual institution. For Veterinary College at CCS HAU Hisar, camel diseases will be covered.

**UNIT I**

Non-infectious/miscellaneous diseases of camels (satyriasis, kumri, allotriophagia, diseases of various body systems, nutritional deficiency disorders).

**UNIT II**

Diagnostic tests related to various non-infectious diseases of camels.

**Suggested Readings**

Gahlot TK. 2000. *Selected Topics on Camelids*. The Camelid Publishing House, Bikaner.

Radostits OM, Gay CC, Blood DC & Hinchcliff KW. 2000. *Veterinary Medicine*. WB Saunders.

**VCM 609: PRODUCTION DISEASES****2+0**

**Objective:** Study of metabolic, production and deficiency diseases of domestic animals.

**Theory****UNIT I**

General aspects, production diseases (parturient paresis, downer cow syndrome, ketosis, post-parturient haemoglobinuria, hypomagnesemic tetany, pregnancy toxemia).

**UNIT II**

Lactation tetany of mares, eclampsia of bitches, osteodystrophia fibrosa, azoturia of equines, rheumatism-like syndrome in buffaloes, hypothyroidism, diabetes mellitus and diabetes insipidus in dogs.

**UNIT III**

Deficiency diseases (calcium, phosphorus, vitamin-D3, vit-A, vit B-complex, vit-C and vit-K).

**UNIT IV**

Deficiency diseases (iron, copper, cobalt, zinc, manganese, iodine, vitamin E and selenium).

**Suggested Readings**

Dunn JK. 1999. *Text Book of Small Animal Medicine*. WB Saunders.

Radostits OM, Gay CC, Blood DC & Hinchcliff KW. 2000. *Veterinary Medicine*. WB Saunders

**VCM 610: DISEASES OF ANIMALS CAUSED BY TOXICANTS****1+0**

**Objective:** Study of diseases caused by various toxicants in domestic animals.

**Theory****UNIT I**

Diseases caused by physical agents and poisoning of organic and inorganic compounds.

## **UNIT II**

Diseases caused by farm chemicals and phytotoxins

## **UNIT III**

Diseases caused by mycotoxins and zootoxins

## **UNIT IV**

Diseases caused by poisonous plants, snake and insect bites.

### **Suggested Readings**

Kahn CM. (Ed.). 2005. *The Merck Veterinary Manual*. Merck & Co.

Radostits OM, Gay CC, Blood DC & Hinchcliff KW. 2000. *Veterinary Medicine*. WB Saunders.

## **VCM 611: VETERINARY FORENSIC MEDICINE**

**1+1**

**Objective:** To familiarize students with various aspects of veterinary forensic medicine.

### **Theory**

#### **UNIT I**

Veterolegal aspects of ante mortem and post mortem examination.

#### **UNIT II**

Examination of wounds, blood, offenses, frauds in animals and their products, animal cruelty and welfare. DNA analysis of clinical samples

#### **UNIT III**

Study of common laws related to veterolegal aspects.

### **Practical**

Ante mortem and post mortem examination, examination of wounds, blood, offenses, frauds in animals and their products, collection, dispatch and examination of veterolegal samples.

### **Suggested Readings**

Sharma SN, Gahlot AK & Tanwer RK. 2003. *Veterinary Jurisprudence*. 5<sup>th</sup> Ed. Camel Publ. House.

## **VCM 612: CLINICAL DIAGNOSTIC TECHNIQUES**

**0+2**

**Objective:** Study the diagnostic protocols and procedures for various diseases of farm and companion animals.

### **Practical**

#### **UNIT I**

Clinical tests and their interpretation related to diseases of alimentary tract, liver, cardio vascular system, blood and blood-forming organs of various species of animals.

#### **UNIT II**

Clinical tests and their interpretation related to respiratory, urinary, nervous, endocrine, musculoskeletal and integumentary systems of various species of animals.

### **Suggested Readings**

Kaneko JJ. 2008. *Clinical Biochemistry of Domestic Animals*. 6<sup>th</sup> Ed. Elsevier.

Kelly WR. 1984. *Veterinary Clinical Diagnosis*. 3<sup>rd</sup> Ed. Eastbourne Balliere-Tindall.

## **VCM 613: VETERINARY EMERGENCY MEDICINE**

**0+2**

**Objective:** Diagnosis and therapeutic management of various medical emergencies in farm and companion animals.

### **Practical**

#### **UNIT I**

Diagnosis and therapeutic management of various emergencies of cardiovascular, respiratory, gastrointestinal, urinary and nervous systems,

#### **UNIT II**

Diagnosis and therapeutic management of various emergencies of toxicities, sting bites and burns of farm and companion animals.

Monitoring critical ill patient, application of emergency care procedures for resuscitation of critically ill patient

### **Suggested Reading**

Kirk RW. 1995. *Handbook of Veterinary Procedures and Emergency Treatment*. 6<sup>th</sup> Ed. WB Saunders.

Sattler FP & Knowles W. 2001. *Veterinary Critical Care*. Lea & Febiger.

## **VCM 614: CLINICAL PRACTICE – I**

**0+3**

**Objective:** Application of the theoretical concepts in practice

### **Practical**

Diagnostic and therapeutic protocol application, specimen collection, examination and management of sick farm and companion animals. Note: This course shall be conducted in TVCSC (College Clinics), where students shall participate in diagnosis and treatment of diseased animals).

**VCM 615: CLINICAL PRACTICE – II**

**0+3**

**Objective:** Application of the theoretical concepts in practice

**Practical**

Diagnostic and therapeutic protocol application, specimen collection, examination and management of sick farm and companion animals. Note: This course shall be conducted in TVCSC (College Clinics), where students shall participate in diagnosis and treatment of diseased animals).

**VCM 701: ADVANCES IN GASTROENTEROLOGY**

**2+1**

**Objective:** Study of contemporary advancements in gastro-enterology

**Theory**

**UNIT I**

Advances in diagnosis, therapy and control of diseases of gastrointestinal system and associated organs of farm animals.

**UNIT II**

Advances in diagnosis, therapy and control of diseases of gastrointestinal system and associated organs of companion animals.

**Practical**

Advanced clinical procedures for the diagnosis of diseases of gastrointestinal system and associated organs of farm and companion animals

**Suggested Readings**

Selected articles from journals.

**VCM 702: ADVANCES IN CARDIOPULMONARY MEDICINE**

**2+0**

**Objective:** Study of recent advances in the field of cardiopulmonary medicine

**Theory**

**UNIT I**

Advances in diagnosis and therapeutic management of diseases of circulatory system

Advances in diagnosis and therapeutic management of diseases of respiratory system

**UNIT III**

Advances in diagnosis and therapeutic management of diseases of blood and blood forming organs in animals

**Suggested Readings**

Selected articles from journals.

**VCM 703: ADVANCES IN NEUROLOGICAL AND UROLOGICAL DISORDERS**

**2+0**

**Objective:** Study of recent advances in the field of neurological and urological disorders.

**Theory**

**UNIT I**

Advances in diagnosis, therapy and control of diseases of nervous system

**UNIT II**

Advances in diagnosis, therapy and control of diseases of urogenital system

**UNIT III**

Advances in diagnosis, therapy and control of diseases of locomotor system

**Suggested Readings**

Selected articles from journals.

**VCM 704: ADVANCES IN ENDOCRINE AND DERMATOLOGICAL DISORDERS**

**2+0**

**Objective:** Study of recent advances in endocrine and dermatological disorders.

**Theory**

**UNIT I**

Advances in diagnosis, therapy and control of diseases of skin and integumentary system

**UNIT II**

Advances in diagnosis, therapy and control of diseases of endocrine system.

**Suggested Readings**

Selected articles from journals.

**VCM 705: ADVANCES IN PRODUCTION DISEASES**

**2+0**

**Objective:** Study of recent advances in production diseases.

**Theory**

**UNIT I**

Latest advances in diagnosis, therapy and prophylaxis of metabolic diseases of farm and companion animals.

**UNIT II**

Latest advances in diagnosis, therapy and prophylaxis of nutritional diseases of farm and companion animals.

**UNIT II**

Latest advances in diagnosis and treatment of various poisonings and toxicities

**Suggested Readings**

Selected articles from journals.

**VCM 706: ADVANCES IN PAEDIATRICS AND GERIATRICS**

**1+0**

**Objective:** Study of recent advances in paediatrics and geriatrics

**Theory**

**UNIT I**

Recent advances in diagnosis, therapy and control of management diseases and of emergencies of neonates

**UNIT II**

Recent advances in diagnosis, therapy and control of management of emergencies of diseases and geriatric animals

**Suggested Readings**

Selected articles from journals.

**VCM 707: ADVANCES IN VETERINARY DIAGNOSTICS**

**1+2**

**Objective:** Study of recent advances in diagnostics

**Theory**

**UNIT I**

Blood and serum biochemical and hematological analyses.

**UNIT II**

Imaging techniques for the diagnosis of animal diseases (x-ray, contrast radiography, CT, MRI, Scintigraphy, Echocardiogram etc).

**UNIT III**

Electrocardiography, ophthalmoscopy, ultrasonography, EEG, CVP, GFR assessment, pulse-oxymetry etc.

**Practical**

Assignments on advanced diagnostic techniques for various diseases of domestic animals. Use of above mentioned advanced diagnostic techniques where ever possible. Collection of CSF, Gastric / rumen /intestinal fluid, absorption and digestion tests, water withheld, low and high dose dexamithasone test, ACTH stimulation, Hormone prolile, enzyme profile.

**Suggested Readings**

Selected articles from journals.

**VCM 708: ADVANCES IN VETERINARY THERAPEUTICS**

**1+2**

**Objective:** Study of recent advances in Veterinary Therapeutics.

**Theory**

**UNIT I**

Fluid and electrolyte imbalance and therapy.

**UNIT II**

Antimicrobial, antineoplastic and hormonal therapy.

**UNIT III**

Blood transfusion and Emergency critical care, Peritoneal dialysis / hemodialysis, Gastric lavage, fluid therapy, parenteral total nutrition, nebulization, oxygen therapy, paracentesis, thoracocentesis.

**Practical**

Assignments on advanced therapeutic approaches in various diseases of domestic animals.

**Suggested Readings**

Selected articles from journals.

**VCM 709: ADVANCED CLINICAL PRACTICE - I****0+2****Objective:** Application of the theoretical concepts in practice**Practical**

Diagnostic and therapeutic protocol application, specimen collection, examination and management of sick farm and companion animals. Note: This course shall be conducted in TVCSC where students shall participate in diagnosis and treatment of diseased animals).

**VCM 710: ADVANCED CLINICAL PRACTICE - II****0+2****Objective:** Application of the theoretical concepts in practice**Practical**

Diagnostic and therapeutic protocol application, specimen collection, examination and management of sick farm and companion animals. Note: This course shall be conducted in TVCSC (College Clinics), where students shall participate in diagnosis and treatment of diseased animals).

**VCM 711: ADVANCED CLINICAL PRACTICE - III****0+2****Objective:** Application of the theoretical concepts in practice.**Practical**

Diagnostic and therapeutic protocol application, specimen collection, examination and management of sick farm and companion animals. Note: This course shall be conducted in TVCSC (College Clinics), where students shall participate in diagnosis and treatment of diseased animals).

**VCM 790: SPECIAL PROBLEM****0+2****Objective:** A short-term project work on some aspect of etio-pathogenesis, diagnosis and therapy of diseases of domestic animals.**VETERINARY CLINICAL MEDICINE, ETHICS AND JURISPRUDENCE****List of Journals**

- \* Indian Journal of Poultry Science
- \* Indian Journal of Veterinary Medicine
- \* Indian Journal of Veterinary Research
- \* Indian Veterinary Journal
- \* Journal of American Veterinary Medical Association
- \* Research in Veterinary Science
- \* Veterinary Medicine
- \* Veterinary Medicine and Small Animal Clinician
- \* Veterinary Record
- \* Veterinary Research Communications

**e-Resources**

- \* [www.uni-sz.bg/bjvm/bjvm.htm](http://www.uni-sz.bg/bjvm/bjvm.htm) (Bulgarian Journal of Veterinary Medicine)
- \* [www.jarm.com](http://www.jarm.com) (International Journal of Applied Research in Vety. Medicine)
- \* [www.ispub.com/ostia/index..php?xmlFilePath=journals/ijvm/front.xml](http://www.ispub.com/ostia/index..php?xmlFilePath=journals/ijvm/front.xml) (Internet Journal of Veterinary Medicine)
- \* [Isrvma.org/journal.htm](http://Isrvma.org/journal.htm). (Israel Journal of Veterinary Medicine)
- \* [www.medwellonline.net/java/fp.html](http://www.medwellonline.net/java/fp.html) (Journal of Animal & Veterinary Advances)
- \* [www.jstage.jst.go.jp/browse/jes/-char/en](http://www.jstage.jst.go.jp/browse/jes/-char/en) (Journal of Equine Science)
- \* [www.stage.jst.go.jp/browse/jpsa](http://www.stage.jst.go.jp/browse/jpsa) (Journal of Poultry science)
- \* [www.vesci.org](http://www.vesci.org) (Journal of Veterinary Science)
- \* [www.sasas.co.za](http://www.sasas.co.za) (South African Journal of Animal Science)
- \* [journals.tubitak.gov.tr/veterinary/index.php](http://journals.tubitak.gov.tr/veterinary/index.php) (Turkish Journal of Veterinary and Animal Sciences)
- \* [vetmed.vri.cz](http://vetmed.vri.cz) (Veterinary Medicine)

**Suggested Broad Topics for Master's and Doctoral Research**

- \* Clinico-therapeutic aspects of bovine mastitis
- \* Hepatic, respiratory and skin disorders in animals
- \* Metabolic/nutritional deficiency disorders in animals with emphasis on hypophosphatemia, hypocupremia and hypomagnesemia