



School of Veterinary Science

2004

VETERINARY MEDICINE 1

VETS 3004

Course coordinator: - Helen Keates

Date of this Course Profile: June 2004

Units value: #2

Class contact hours: 50 hours lectures, 9 hours practicals/tutorials in the semester.

Purpose of the course: -

The purpose of this course is to introduce the student to the general medicine of body systems and regions, ruminant medicine and the principles of surgery, anaesthesia and asepsis.

Staff

Course coordinator

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Course goals

On completing this course students will:

General medicine of the alimentary system, blood and bone marrow, & body fluids.

Understand the pathophysiology, clinical manifestations and laboratory evaluation of diseases of the liver, pancreas and alimentary tract in companion animals. To be able to diagnose and treat the common disorders affecting these organs.

Understand the importance of determining, and be able to differentiate between, prehepatic, hepatic and posthepatic jaundice.

Understand the mechanisms of diarrhoea, and be able to differentiate between small and large intestinal diarrhoea.

Have a logical approach to diagnosing causes of anaemia. To understand the importance of, and be able to, determine whether anaemia is regenerative or not.

Be familiar with erythrocyte and leucocyte morphology, and the disease processes that can alter numbers and morphology of these cells.

Understand normal haemostasis, and be familiar with the processes and diseases that may lead to disorders of haemostasis. To have a logical approach to the diagnosis of bleeding disorders, and be able to interpret the results of appropriate laboratory tests. To be familiar with treatments available for bleeding disorders.

Be familiar with techniques to collect fluids from body cavities, including CSF, BAL, TW, peritoneal, pleural, pericardial and joint fluids. To be able to interpret laboratory test results on these fluids, and apply this knowledge to diagnose and treat disease.

Introductory Ruminant Medicine

Acquire an understanding of the real-life factors influencing the application of medical theory to farm animals.

Safely conduct a thorough and methodical clinical examination of cattle and interpret common clinical findings.

Formulate practical approaches to the diagnosis and therapy of problems in herds or flocks.

Apply existing knowledge of ruminant production systems, physiology, microbiology, pathology and pharmacology to the resolution of medical problems of individual animals.

Demonstrate an understanding of the regulatory and practical restrictions on farm animal therapeutics.

Introductory Surgery

Have knowledge and understanding of Halsted's principles of surgery

Have knowledge of different methods of sterilisation of instruments and other theatre equipment

Know how to prepare a patient and an operating theatre for surgery

Have a working knowledge of scrub routines used for surgeons

Have knowledge of correct tissue handling, haemostasis, methods of debridement, elimination of dead space and the use of drains

Know the properties of an ideal suture and be able to select suitable suture materials for various body tissues

Have knowledge of commonly used suture patterns and surgical instruments

Introductory Anaesthesia

Have an appreciation of the relevant history of anaesthesia

Understand respiratory physiology and anatomy with particular reference to the clinical implications of changes due to general anaesthesia and their significance in the anaesthetised patient.

Understand the effects of anaesthetic drugs and procedures on the performance of the cardiovascular system and the implications of these effects.

Have knowledge of the practical aspects of drug administration.

Understand the principles of monitoring the anaesthetised patient and the mode of operation, uses and limitations of commonly used monitors.

Understand the principles governing the design of patient breathing systems and operation of commonly used patient breathing systems.

Have knowledge and understanding of the process of euthanasia in small animals, including birds.

Graduate attributes developed

- This course will assist in the development of all five graduate attributes; in depth knowledge of the field of study, effective communication, independence and creativity, critical judgement and ethical and social understanding, to different degrees.
- *In depth knowledge of the field of study.* This course extends the earlier knowledge from anatomy, physiology and pathology into a more clinical context through the evaluation of clinical and laboratory data. It also introduces students to a range of principles necessary for studies in surgery and anaesthesia.
- *Effective communication.* The course also introduces students to the discussion of clinical material and the necessity to convey information to colleagues and clients.
- While *independence and creativity, critical judgement* and *ethical and social understanding* are relatively minor components of this course the importance of evaluating data, making judgements based on the data and the social context are variably introduced.

Assumed background

The assumed background for this course is an understanding of the anatomy, biochemistry and physiology of the organs and body systems covered in this course

Teaching and learning modes

Each component of the course is presented in lecture mode. Supporting tutorial/practical classes are held for haematology, clinical examination of the cow and introductory anaesthesia.

Recommended texts and references

General medicine of the alimentary system, blood and bone marrow, & body fluids.

Veterinary Laboratory Medicine Clinical Pathology 4th ed, eds Latimer KS, Mahaffey EA, Prasse KW, 2003, Iowa State Press

Textbook of Veterinary Internal Medicine 5th ed, Ettinger SJ, Feldman EC, 2000 WB Saunders

Equine Medicine and Surgery 5th ed, Colahan PT, Mayhew IG, Merritt AM, Moore JN, 1999 Mosby

Manual of Canine and Feline Haematology and Transfusion Medicine, eds Day M, Mackin A, Littlewood J, 2000 BSAVA

Introductory Ruminant Medicine

Veterinary Medicine. Radostits, Gay, Blood and Hinchcliff. 2000. A good general text for large animal medicine.

Large Animal Internal Medicine. Smith. 2002. A good text recommended for general internal medicine of cattle. Emphasis is on North American production systems and diseases.

Veterinary Clinical Examination and Diagnosis. Radostits, Mayhew and Houston. This is a general veterinary text that has excellent sections on clinical examination of cattle. WB Saunders. 2000

Clinical Examination of Cattle (1979) Rosenberger. This is an oldish, German book that comes from the days when vets were capable of doing full clinical examinations and made diagnoses with little more than a stethoscope, a thermometer, plectrimer and their bare hands. The chapters on restraint of cattle and on rumen evaluation are particularly illuminating. Many period illustrations of teutonic machismo. Highly recommended reading.

Infectious Diseases of Livestock with Special Reference to Southern Africa. Coetzer, Thomson and Tustin. Oxford University Press. 1994, new edition coming soon. Although many of the diseases described in this text are exotic to Australia, the chapters on diseases that are common to both continents (and this includes the majority of the chapters) are brilliant in their depth, rigour and illustration. This 2 volume masterpiece is more than a book, it is a work of art. It is available at St Lucia

2003 IVS Annual. Mims Australia. www.mims.com.au This is a compendium of veterinary ethical and pharmaceutical products, including products, indications, contraindications, dose rates and withholding periods. It is an essential book for surviving in practice.

Introductory Surgery

Small animal surgery / [edited by] Theresa Welch Fossum ; Laura Pardi Duprey, medical illustrator. St Louis: Mosby, c2002, 2nd ed.

Current techniques in Small Animal Surgery, M.J. Bojrab, 4th edition Williams Wilkins

Introductory Anaesthesia

Veterinary Anaesthesia, L.W. Hall & K.W. Clarke, 10th edition Baillière Tindall, 2000

Nervous System

Clinical Syndromes in Veterinary Neurology, K.G. Braund, 2nd edition Mosby

Veterinary Neuroanatomy and Clinical Neurology, A. de Lahunta, 2nd edition Saunders

Assessment program

1. A 2-hour written examination held at the end of semester will cover the major areas covered in the course 60%
 2. A one-hour written examination, held approximately midway during the semester, will cover designated areas covered in lectures up to that time. 30%.
 3. Attendance and satisfactory participation in the practical/tutorial sessions 10%
- The two written examinations will assess the students' knowledge of the various topics in the course and the assessment in the tutorial/practical sessions will relate to the student's ability and competence in a range of practical procedures.

Assessment criteria

Marks are allocated for the two examinations. Grades will be allocated according to University wide reference standards:

1 (Serious Fail): fails to satisfy most or all of the basic requirements of the subject.

2 (Fail): fails to satisfy some of the basic requirements of the subject.

3 (Pass Conceded): falls short of satisfying all of the basic requirements for Pass but can be granted concession for the deficiencies through;

- being close to satisfactory overall
- having compensating strengths in some aspects of the subject
- having compensating strengths in other subjects
- other mitigating circumstances

4 (Pass): satisfies all of the basic learning objectives for the subject, such as knowledge of fundamental concepts and performance of basic skills.

5 (Credit): demonstrates ability to use and apply fundamental concepts and skills, going beyond mere replication of content knowledge or skill to show understanding of key ideas, awareness of their relevance, some use of analytical skills and some originality or insight.

6 (Distinction): demonstrates awareness and understanding of deeper and subtler aspects of the subject, such as ability to solve non-routine problems, ability to adapt and apply ideas to new situations, and ability to invent and evaluate new ideas.

7 (High Distinction): demonstrates imagination, originality or flair, based on proficiency in all learning objectives for the subject.

Outcomes of assessment exercises

The marks allocated for each of the written examinations will be a summation of the marks for individual questions, which will in turn reflect the student's ability to meet the aims and objectives of the course.

Assessment and grading

Formative and summative assessment

The mid-semester and end of semester examinations and the tutorials count towards a student's grade.

Grading

A student's grade in this course shall be determined by the accumulation of marks in tutorials, mid-semester examination and end of semester examination.

Required work

As students are awarded marks for attendance and participation in tutorials, attendance is essential.

Assessment policies

If a student is unable to attend any tutorial or the mid-semester examination, they must notify the individual tutor or the course coordinator before the event to confirm satisfactory alternative arrangements.

Assessment and disability

If a student has a disability and requires assessment variation, relevant information is available at the following website:- <http://www.uq.edu.au/hupp/contents/view.asp?s1=3&s2=30&s3=3>. Alternatively, they should liaise with the year mentor, Dr Dick Sutton or the course coordinator, Dr Helen Keates.

Plagiarism

Plagiarism is discussed on page 19 of the School of Veterinary Science 2003 Undergraduate Student Information Booklet.

Support for students with a disability

Any student with a disability who may require alternative academic arrangements in the course/program is encouraged to seek advice at the commencement of the semester from a Disability Adviser at Student Support Services.

Lecture and other contact schedules

Lecture Timetable

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Week Starting	Monday 8:00 81-214	Wednesday 10:00 82-L	Thursday 8:00 82-L	Friday 8:00 1-E302	Friday 10.00 am 81-214
26 th July	IPJ	CO'L		IPJ	CO'L
2 nd August	IPJ	CO'L	HLK	IPJ	CO'L
9 th	IPJ	EXHIBITION	HLK	IPJ	CO'L
16 th		CO'L	IPJ	HLK	CO'L
23 rd	SFS	CO'L	HLK	DB	CO'L
30 th	SFS	CO'L	HLK	DB	CO'L
6 th September		CO'L		DB	CO'L
13 th		CO'L			CO'L
20 th	VACATION Years 4 & 5				
27 th	VACATION Years 1,2 & 3				
4 th October	NJ	CO'L	NJ	NJ	CO'L
11 th	NJ	CO'L	NJ	NJ	CO'L
18 th	NJ	CO'L	NJ	NJ	CO'L
25 th		CO'L			

IPJ – Dr. Isobel Johnstone
 NJ – Dr Nick Jonsson
 HLK – Dr. Helen Keates
 SFS – Mrs. Susan Sommerlad
 CO'L – Dr Caroline O'Leary
 LBG – Ms Linda Goldstein

KP - Kit Parke

Tutorial/Practical Classes Starting in the week of 26/07/03

Week starting	Anaesthesia	Cow	Haematology	Pigs
Time	Mon 9-11	Wed 2-4	Wed 2-4	Wed 2-5
Location	82-WG (radiol tut rm)	Droughtmstr yrds	SL 1	Gatton
26-Jul		4		
2-Aug		5		
9-Aug	1	Exhibition		Wednesday
16-Aug	2	6		1
23-Aug	3	7	1	2
30-Aug	4	8	2	3
6-Sep	5	NJ away	3	4
13-Sep	6	NJ away	4	5
20-Sep	Year	Five	Holidays	
27-Sep	Years	1 - 4	Holidays	
4-Oct	7	1	5	6
11-Oct	8	2	6	7
18-Oct		3	7	8
25-Oct			8	

Anaesthesia	LBG	MON 9AM - 11AM	Radiology tutorial room
WG8			
Clinical Examination of Cow	NJ	WED 2 PM – 4 PM	Beef cattle yards, Pinjarra Hills
Haematology essential.	CO'L	WED 2 PM – 4 PM	SL 1 Lab coats
Pigs	KP	WED 2 PM – 5 PM	Gatton Piggery

COURSE OUTLINE

Dr Isobel Johnstone

Nervous system

- Lecture 1 Neurological examination
- Lecture 2 Neurological examination
- Lecture 3 Peripheral nerve and muscle problems (lower motor neurones)
- Lecture 4 Localising spinal problems
- Lecture 5 Vestibular system and cerebellum
- Lecture 6 Seizures
- Lecture 7 Meningitis and brain trauma

Dr Nick Jonsson

Introductory ruminant medicine

- Lecture 1 Approaches to ruminant diagnosis and therapy
 - a. production medicine
 - b. diagnostic approach to individual clinical cases
 - c. diagnostic approach to herd problems
 - d. reporting
 - e. exotic disease awareness
- Lecture 2 Therapeutic considerations in ruminant medicine
 - a. Regulations and ethics
 - b. WHPs, ESIs and QA programs
 - c. Routes of administration
- Lecture 3 Clinical examination of ruminants
 - a. Restraint
 - b. A methodical approach
 - c. Matching the examination to the purpose
- Lecture 4 Digestive system
 - a. Examination
 - b. Major conditions
 - c. Important therapeutics
- Lecture 5 Musculoskeletal system
 - a. Examination
 - b. Major conditions
 - c. Important therapeutics
- Lecture 6 Respiratory system
 - a. Examination
 - b. Major conditions
 - c. Important therapeutics
- Lecture 7 Nervous system
 - a. Examination
 - b. Major conditions
- Lecture 8 Clinical pathology and metabolic profiles
 - a. Haematology
 - b. Biochemistry
 - c. Bacteriology
 - d. Helminthology
 - e. Metabolic profiles
- Lecture 9 Neonates

Dr Caroline O’Leary***Blood and bone marrow***

- Lecture 1 Erythrocyte development, morphology and indices
- Lecture 2 Classification of anaemia, diseases causing regenerative anaemia; clinical findings, interpretation of clinical pathology and treatment
- Lecture 3 Diseases causing nonregenerative anaemia; clinical findings, interpretation of clinical pathology and treatment.
Brief discussion of blood transfusion medicine
- Lecture 4 Leucocyte development and morphology
- Lecture 5 Processes associated with leucocytosis and leucopaenia
- Lecture 6 Lymphoproliferative and myeloproliferative neoplasia; clinical findings and clinical pathology
- Lecture 7 Normal haemostasis, clinical pathology tests used to evaluate bleeding disorders
- Lecture 8 Diseases of primary haemostasis; causes, clinical signs, clinical pathology, treatment
- Lecture 9 Diseases of secondary haemostasis and thrombosis; causes, clinical signs, clinical pathology, treatment

Fluids from body cavities

- Lecture 10 Collection and analysis of cerebrospinal fluid, bronchoalveolar lavage and tracheal wash fluid
- Lecture 11 Collection and analysis of peritoneal, pleural and pericardial fluid
- Lecture 12 Collection and analysis of joint fluid

Liver and pancreas

- Lecture 13 Functions of the liver, pathophysiology and clinical manifestations of liver disease
- Lecture 14 Laboratory evaluation of liver disease, importance of differentiating whether jaundice is prehepatic / hepatic / posthepatic in origin
- Lecture 15 Causes and treatment of liver diseases in companion animals
- Lecture 16 Pathophysiology, laboratory evaluation, clinical manifestations and treatment of pancreatitis
- Lecture 17 Pathophysiology, laboratory evaluation, clinical manifestations and treatment of exocrine pancreatic insufficiency

Alimentary system

- Lecture 18 Clinical signs, diagnostic tests and treatment of diseases of the oral cavity, pharynx and oesophagus
- Lecture 19 Brief outline of the structure and function of the stomach, clinical signs, diagnosis and treatment of diseases of the stomach, causes and treatment of gastrointestinal ulceration
- Lecture 20 Brief outline of the structure and function of the small intestine, clinical signs of small intestinal disease, mechanisms of diarrhoea, importance of differentiating between small and large intestinal diarrhoea
- Lecture 21 Diseases of the small intestine; diagnosis and treatment
- Lecture 22 Brief outline of the structure and function of the large intestine, clinical signs of large intestinal disease, diseases of the large intestine; diagnosis and treatment. Clinical signs of recto-anal disease, causes of recto-anal disease; diagnosis and treatment

Mrs Sue Sommerlad

Introductory surgery

- Lecture 1 Halsted's Principles of Surgery
- Lecture 2 Methods of sterilisation of instruments, preparation of the patient and the theatre
- Lecture 3 Haemostasis and electrocautery Suture patterns and materials Instrumentation
- Lecture 4 Debridement of wounds and the treatment of wounds and wound dressing
- Lecture 5 Debridement of wounds and the treatment of wounds and wound dressing

Dr Helen Keates***Introductory anaesthesia***

- Lecture 1 Introduction to anaesthesia
- Lecture 2 Anaesthesia and the respiratory system
- Lecture 3 Anaesthesia and the cardiovascular system
- Lecture 4 Monitoring the anaesthetised patient. Euthanasia
- Lecture 5 Aspects of anaesthetic practice and introduction to patient breathing systems