THE UNIVERSITY OF ZAMBIA

SAMORA MACHEL SCHOOL OF VETERINARY MEDICINE

HANDBOOK 1991/92

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HAND BOOK

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THE UNIVERSITY OF ZAMBIA

P.O. BOX 32379, LUSAKA

TEL: 213221

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OFFICERS OF THE UNIVERSITY OF ZAMBIA

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Chairperson of Council:	
Vice Chancellor: (Acting)	Professor A.A. Siwela, B.Sc. (Zambia), M.Sc. (London), Ph.D. (W.Ont.). FLS (Zambia)
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Deputy Vice Chancellor II (Acting)	Professor L.G. Shimba, Ph.D. (London). LLM
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DEANS OF SCHOOLS

Agricultural Sciences:	Dr. V.R.N. Chinene, B.Agric. Sc. (Zambia), M.Sc. (Wageimagent) Ph.D. (Hawaii)
Education:	Dr. P.M. Haamujompa, M.SEd (Indiana), Med. EdS. (Col.) B.A.
Engineering:	Prof. J.M. Mwenechanya, M.Sc., Ph.D. (Manch.), BEng. MIEE.

Humanities and Social Sciences:	Dr. J.D. Chileshe, B.A.Ed. (Zambia), M.A. Ph.D. (Sussex).
Law:	Prof. L.G. Shimba, Ph.D. (Lond.) LLM.
Medicine:	Dr. K. Mukelabai, B.Sc. MBChB, (Zambia) DABP (US).
Mines:	Dr. E.H. Jere, B.Sc. (Rutgers) M.Sc. Ph.D. (Lehigh)
Natural Sciences:	Dr. D. Theo, B.Sc. (Zambia) M.Sc., Ph.D. (Wales)
Veterinary Medicine:	Prof. C.E. Lovelace, B.Sc. (Birm.) Ph.D. (Lond.) Ag.
Dean of Students Affairs:	Dr. B.L. Mwape, B.A. (Zambia), M.Sc. (Lond.), Ph.D. (Pipt)
Graduate Studies:	Professor L.P. Tembo, M.A. (Otago), Dip. TESL(Well), D.Ed. (Col).

DIRECTORS

Centre for the Arts:	Dr. M. Mtonga, B.A. (Zambia) M.A. (Ghana), Ph.D. (Lond.)
Centre for Continuing Education:	Dr. R. Siaciwena, BA.Ed. (Zambia), Dip. Ed., M.A. (Lond.), Ph.D. (Wales)
Computer Centre	Mr. M.P. Bennett, B.Sc. (Eng.) MBCS
Education Research Bureau:	Prof. E.K. Waddimba, M.A. Ed.D (W.Mich) Dip. Ed. (Bristol)
Institute for African Studies:	Dr. O.S. Saasa, B.A. (Zambia), M.Sc., Ph.D., (Sothon)
Institute of Human Relations:	
Rural Development Studies Bureau:	Dr. J.T. Milimo, Doc. Soc. Antr. (Oxford Univ.), M.Litt. (Oxford Univ.) S.T.L. (Masters in Theology) Gregorian Univ., Rome

SAMORA MACHEL SCHOOL OF VETERINARY MEDICINE

SCHOOL OFFICE

NAME	POSITION	QUALIFICATIONS
Prof. C.E.A. Lovelace	Acting Dean/ Associate Professor	B.Sc. (Birmingham), Ph.D. (London)
Dr. T.R. Ayliffe	Assistant Dean (Postgraduate)	B.Sc., B.Vet.Med., Ph.D., (London). M.R.C.V.S.
Dr. G.S. Pandey	Assistant Dean, (Undergraduate)	B.Sc. Agr., B.V. Sc. & A.H. M.V. Sc. (Agra)
Mr. A. Chishimba	Admin. Assist. to the Dean	Dip. Per. Admin., B.A. Public Admin. (Zambia)
Prof. Y. Tsutsumi	JICA Team Leader Professor	D.V.M. (Tokyo), Ph.D. (Osaka)
Mr. O. Kosegawa	JICA Coordinator	B.Sc. Agric. (Tokyo)

ACADEMIC STAFF OF THE SCHOOL OF VETERINARY MEDICINE

DEPARTMENT OF BIOMEDICAL SCIENCES

Dr. B.N. Kisauzi	Head/Senior Lecturer	B.Vet.Med. (Makerere), Dip. Nutri. (Copenhagen), Ph.D. (Dublin) Physiology
Prof. C.E.A. Lovelace	Associate Professor	B.Sc., (Birmingham), Ph.D. (London) Biochemistry
Dr. T.R. Ayliffe	Senior Lecturer	B.Sc., B.Vet.Med., Ph.D. (London), M.R.C.V.S. Pharmacology
Prof. V. Ramkrishna	Associate Professor	B.Sc., B.V.Sc. M.V.Sc., & A.H. (Jabalpur), Ph.D. (Ludhiana) Anatomy/Histology
Dr. S. Drozdowski	Senior Lecturer	B.V.Sc., M.V.Sc., (Lublin), Ph.D. (Warsaw) Physiology
Dr. M. Sabbe-Verstraelen	Lecturer	Dr. Med. Vet. (Ghent) Histology/Embryology

Mr. K.M. Mizinga	Lecturer	B.Sc. Agric. (UNZA) M.V.Sc. (Tuskegee) (on study leave for Ph.D.) Physiology/Pharmacology
Dr. G. Muwanga	Lecturer	B.Vet.Med., M.Sc. (Makerere) Anatomy
Ms. Z. Mbawa-Nkungulu	S.D.F.	B.Sc. (Zambia) Biochemistry
Dr. K. Choongo	S.D.F.	B.Vet.Med. (Zambia) (on study leave). Pharmacology
Dr. C. Bishonga	S.D.F.	B.Vet.Med. (Zambia) Physiology

DEPARTMENT OF CLINICAL STUDIES

Prof. J.O. Omamegbe	Head/Assoc. Prof.	D.V.M. (Ibadan), M.V.M. (Glasgow) Surgery
Dr. C.J. Siame	Lecturer	B.V.M., M.Sc. (Leipzig) Reproduction and Obstetrics
Dr. I.G.K. Phiri	Lecturer	B.V.Sc., M.V.S.C. (Leipzig) Dip. Trop. Vet. Med. (Free Univ. Berl) Cert. Trop. Vet. Med. (Edinburgh) Surgery
Dr. J. Muleya	Lecturer	B.Vet.Med. (Zambia). M.Sc. (Glasgow) Surgery
Dr. O. Patel	Lecturer	B.Vet.Med. (Zambia) M.Sc. (Glasgow) (on study leave for Ph.D.) Reproduction
Dr. F. Sabbe	Lecturer	D.V.M., (Ghent) Protozoological Diseases/Reproduction
Dr. J.H.R.N. de Bont	Lecturer	B.V.Sc., D.V.M. (Ghent), Dip. Trop. Vet. Med. (Cum Laude) Large Animal Medicine
Dr. K. de Balogh	Lecturer	D.V.M (Minich), M.Sc. (Alport). Large Animal Medicine
Dr. T. Mwanza	Lecturer	B.V.M., M.Sc. (Leipzig). Small Animal Medicine

Dr. B.K. Engen	Manager	C.M.V. (Norway). Small Animal Clinic

DEPARTMENT OF DISEASE CONTROL

Prof. T. Kaji	Head/Professor	D.V.M. (Obihiro), Ph.D. (Azabu). Microbiology
Prof. K. Nakamura	Head/Professor	D.V.M. (Tokyo), PhD. (Azabu), D.M.Sc., PhD. (Shimane). Public Health
Dr. G.S. Pandey	Senior Lecturer	B.Sc. Agr. (Agra) B.V.Sc. & A.H. M.V.Sc. (Jabalpur) Clinical Pathology
Dr. J.E.D. Mlangwa	Lecturer	B.V.M. (Nairobi), D.P.V.M., Ph.D. (Copenhagen) Epidemiology/Economics
Dr. K.L. Samui	Lecturer	B.V.M. M.Sc., (Kishinev) Preventive Medicine/Epidemiology
Mr. H. Chitambo	Lecturer	B. Agric. Sc. (Zambia), M.Sc. (Bango (on study leave for Ph.D.) Parasitology (Protozoology)
Dr. M. Ngoma	Lecturer	B.Vet.Med. (Zambia), M.Sc. (Edinburgh) (on study leave for for Ph.D.) Public Health
Dr. L.M. Tuchili	Lecturer	D.V.M. (Romania), M.Sc. (U.K.) Microbiology
Dr. A. Mweene	Lecturer	B.Vet.Med. (Zambia), M.Sc (U.K.) Virology
Dr. A.M. Nambota	Lecturer	D.V.M., M.Sc. (Leipzig), Dip. Trop. Vet. Med. (Free Univ. Berlin). Parasitology/Protozoology
Dr. M.S. Syakalima	S.D.F.	B.Vet.Med. (Zambia) (on study leave) Clinical Pathology

DEPARTMENT OF PARACLINICAL STUDIES

Prof. Y. Tsutsumi	Head/Professor	D.V.M., (Tokyo) Ph.D. (Osaka), Parasitology (Protozoology)

Prof. A. Kumar	Associate Professor	B.V.Sc., M.V.Sc., Ph.D. (Pantnagar) Microbiology
Dr. N. Seki	Senior Lecturer	D.V.M., M.Sc. (Hokkaido) Parasitology (Helminthology)
Dr. M.M. Musonda	Lecturer	B.V.M. (Nairobi), Dip. Vet. Path. (Uppsala) Ph.D. (Azabu), F.R.V.C. Pathology
Dr. E.T. Mwase	Lecturer	B.Sc. (Zambia), M.Sc., Ph.D. (London) Parasitology (Entomology)
Mr. R. Muimo	Lecturer	B.Agric. Sc. (Egypt), M.Sc. (Bengor) (on study leave for Ph.D.) Parasitology (Helminthology).
Dr. I.M. Bhaiyat	S.D.F.	B.Vet.Med. (Zambia) (on study leave). Pathology
Dr. A. Mulenga	S.D.F.	B.Vet.Med. (Zambia) Parasitology (Protozoology/Entomology)
Dr. M. Mwase	House Surgeon	B.Vet.Med. (Zambia) Pathology

SENIOR TECHNICAL STAFF

NAME	Position	QUALIFICATIONS
Mr. W. Benkele	Chief Technician Central Services	Dip. Med. Lab. Sci. (Zambia) Cert. Vet. Tech. (London) Advanced Cert. Vet. Lab. Tech. and Radiology (Kobe), Cert. Agric. Teaching Methodology (Wolverhampton)
Mr. S. Chisembe	Chief Technician Paraclinical Studies	CGI Part I, Adv.Sc.Lab.Cert. (Zambia) HND Applied Biol. (U.K.)
Mr. J. Daka	Chief Technician Biomedical Science.	CGI Part I, II & III, Sci. (London) Lab. Tech. SIMA Cert. (Zambia) (Scientific Instrumentation) Vet. Instr. Cert.
Mr. W. D. Ulaya	Chief Technician Disease Control	City and Guilds Parts I & II (Sc.Lab. Tech.) SIMA, Cert.Sc.Tech. (Zambia).
Mr. M. Mubiana	Senior Technician Clinical Studies	Dip. Agric. (Animal Science Major) Certificate. Animal Health and Management. (Zambia)

Mr. M. Kadono	Senior Technician Central Services	Eng. Spec. (Japan)
Mr. P.G. Phiri	Senior Technician Paraclinical Studies	Dip. Med. Lab. Techn. (Zambia); Cert. Anim. Health (Zambia), Cert. Haem. Diseases of Cattle (Nairobi).
Mr. P. Chama	Senior Technician Paraclinical Studies	CGI Part I, Adv. Sc. Lab. Cert. (Zambia)
Mr. B. Sakala	Senior Technician Biomedical Science	CGI PART I, Adv. Sc. Lab. Cert. (Zambia) Cert. Anim. Sc. Tech. (Ottawa) HND Applied Biology (Dublin)
Mr. L. Zulu	Senior Technician Disease Control	Cert. Anim. Health (Zambia), ONC Vet. Lab. Sc. (Brooklands), Lab. Anim. Manag. (Surrey), HND App. Bio. (Nescot)
Mr. C.M. Mubita	Senior Technician	CGIPart I (Zambia), ONC Vet. Lab Sc. (Brookland), Cert. Immun. (London), Cert. Tick-Borne Dis. & Trypa. (Kenya) HNC Med. Lab. Sc. (Glasgow).

THE UNIVERSITY OF ZAMBIA
SAMORA MACHEL SCHOOL OF VETERINARY MEDICINE

Introduction

In July, 1983, it was announced that the University of Zambia was to establish its own School of Veterinary Medicine to meet the critical shortage of qualified veterinary personnel, and with the cooperation of the Government of Japan the construction of a large and well equipped school began in February 1984 and was completed in 1986. However, due to the pressing need for veterinarians it was decided not to delay the introduction of the teaching programme until the buildings became available, and temporary premises were provided to enable the first class of 14 students to be admitted to the veterinary course in October 1983.

The intake has been increased annually in order to graduate a maximum of 30 veterinarians each year. The programme of study extends over 6 years and leads to the award of the degree of Bachelor of Veterinary Medicine of the University of Zambia.

The first year is by entry to the School of Natural Sciences to study biology, chemistry, physics and mathematics. The students enter the Veterinary School in second year, where they do anatomy, embryology and physiology in the Department of Biomedical Sciences, and biomathematics, agronomy, genetics, and biochemistry in the Schools of Agricultural Sciences and Natural Sciences. The third year covers more biomedical sciences, and animal nutrition. The fourth year is spent in the Department of Paraclinical Studies with pathology, microbiology, parasitology and pharmacology, and also animal production. The students start clinical work in their fifth year, where their lectures are split between the Departments of Disease Control and Clinical Studies. At the end of the sixth year the students are externally examined in their main areas of study including Medicine, Surgery, Theriogenology, Preventive Medicine, Public Health, Epidemiology, Economics and Extension.

The course is designed to produce practising Veterinarians, so the practical component is very important. In each of the vacations from third to fifth year, the students are expected to have practical experience, first on the farm, second in a diagnostic laboratory and lastly in a veterinary clinic.

The School has attached to it an active Small Animal Clinic open to the public daily, and also a Diagnostic Laboratory which charges minimal fees for all diagnostic services. The Laboratory is well established in the Department of Disease Control, and besides providing services to farmers and veterinarians, it helps in the procurement of teaching material for students. The School also runs an ambulatory farm clinic which visits a variety of farms, from large commercial enterprises to village small-holdings. These clinics provide a large number of clinical cases for student teaching and demonstration. The School also has a small animal hospitalization quarters, special accommodation for small laboratory animals and a covered-pen area for large animals. Cattle, horses, goats and sheep are kept in 13 hectare paddocks at the rear of the School. There

are used for student teaching and for research. The School also has 50 hectares of arable land as part of the University Farm.

Research in the School is active, with a variety of diseases being studied. Several surveys are being carried out on important ruminant diseases including zoonoses. The School has students doing postgraduate studies by research, some working in the Laboratory and some out in the field. A postgraduate programme for a master's degree by coursework in Diagnostic Veterinary Medicine (M.Vet.Med) is also available.

Deans of the School

1985-87 Prof. R.P. Lee - M.A. (Oxon.), Ph.D. (NUL), MRCVS.

1987-89 Prof. R.J. Thomas - B.V.Sc., M.Sc. (Bristol), Ph.D. (Dundee) MRCVS

1989- Prof. C.E.A. Lovelace (Ag) - B.Sc. (Birmingham), Ph.D. (Lond.)

Dr. M.N. Shandomo, B.V.Sc.(E.Africa), Dr.Vet.Med (Vienna), M.Sc. (Epid.) served as co-ordinator of the School in its formative stages (1985-85).

Graduates of the School

Academic Year	Male	Female	Total
1987/88	11	2	13
1988/89	13	2	15
1989/90	17	0	17
1990/91	12	2	14
Total	53	6	59

THE BOARD OF STUDIES

The Board of Studies is responsible for organising the structure and content of the courses of instruction and study. Its composition is as follows:

The Dean, School of Veterinary Medicine, Chairman.

The Dean, School of Agricultural Sciences or his representative.

The Dean, School of Education or his representative.

The Dean, School of Humanities or his representative.

The Dean, School of Natural Sciences, or his representative.

The Dean, School of Medicine or his representative.

The Dean of Students, or his representative.

The Librarian, or his representative.

The Director, Centre for Continuing Education or his representative.

The Director, Education Research Bureau or his representative.

The Director of Veterinary and Tsetse Control Services, Ministry of Agriculture or his representative.

The Director of Wildlife and National Parks, Ministry of Tourism or his representative.

The Head, Department of Animal Sciences, School of Agricultural Sciences or his representative.

Chairman, Veterinary Association of Zambia.

All members of the academic staff of the School of Veterinary Medicine appointed on a full time basis for teaching and research.

The Administrative Assistant to the Dean as its Secretary.

A student representaive of the preclinical and paraclinical years.

A student representative of the clinical years.

OBJECTIVES

To produce veterinarians who will be recognised internationally and who will be competent to engage in:

a) the promotion of animal production development in Zambia and elsewhere through improved animal health control, surgical intervention, breeding and nutritional programmes.

b) the promotion of public health through the control of zoonotic diseases, and other infections and intoxications transmissible to man through animal products.

c) basic and applied research in the field of veterinary medicine and surgery,

d) teaching and academic curriculum development in veterinary education.

e) appropriate livestock and poultry products industries.

ENTRANCE REQUIREMENTS AND REGULATIONS

1. Entrance Requirements to the School of Veterinary Medicine

   i) A clear pass with normally a minimum of C+ obtained at the first attempt in all courses of the first year School of Natural Sciences, University of Zambia or equivalent qualifications from other Universities or Schools. The student will have opted to study Veterinary Medicine.

   ii) For non school leavers the following requirements apply:

      a) Natural Resources Development College (NRDC) or equivalent Colleges, Diploma in Agriculture or Animal Science with a Distinction. These will be admitted into the first year under the School of Natural Sciences.

      b) B.Sc. University of Zambia or equivalent University with a credit will be admitted to the second year, School of Veterinary Medicine.

      c) B.Agric. Sc. University of Zambia or equivalent University with a credit, will be admitted into the third year School of Veterinary Medicine.

   iii) There are limited places for both categories of candidates, and thus there may be considerable competition for admission. This may demand therefore, that selection for a place will depend on the attainment of higher levels of performance.

GENERAL ENTRANCE REQUIREMENTS

1. APPLICANTS OFFERING QUALIFICATIONS OF THE GENERAL CERTIFICATE OF EDUCATI OR THE CAMBRIDGE OVERSEAS SCHOOL CERTIFICATE

i) Every applicant must hold passes in at least five approved subject

ii) The passes must include (a) English, (b) either Mathematics or an approved science subject.

iii) "Approved subjects" are those approved for this purpose by the University of Zambia.

iv) Attainment of Grade A, B or C in an examination at the Ordinary Level of the G.C.E. or on the Cambridge School Certificate will be regarded as a pass for the satisfaction of these entrance requirements.

2. APPLICANTS OFFERING QUALIFICATIONS OF OTHER EXAMINING BOARDS

Qualifications of other Examining Boards may be recognized in complete satisfaction of the requirements listed in paragraph 1 above, if, in the opinion of the University Senate, the standard of examination is sufficiently high to warrant recognition for this purpose.

3. MATURE APPLICANTS
The University may modify the general entrance requirements in the case of applicants who are twenty-three years of age or over by 1st October o the year in which they begin their degree courses.

4. EXCEPTIONALLY, the University may admit an applicant whose qualificatio do not conform to the general entrance requirements but who presents other evidence which, in the opinion of the Senate, indicates that he/ she has the capacity and attainment to pursue the course of study proposed.

5. REQUIREMENTS OF THE SCHOOL OF NATURAL SCIENCES
A pass in an O level subject shall for the purpose of the entrance requirements of th School of Natural Sciences be deemed to be the attainment of Grade A, B or C in that subject.

Within the framework of the G.C.E. all candidates require passes in fiv O levels subjects as follows:-

1) A pass in Mathematics in which the minimum acceptable standard that must be attained is Grade B;
2) A pass in Chemistry AND Physics OR Physical Sciences;
3) A pass in one further approved science subject preferably Biology
4) A pass in English Language;
5) A pass in one other approved subject.

QUOTA SYSTEM

The selection for the various quotas for different schools takes place at the end of the first year and is based on grades obtained in the first year and the students preferences.

REGULATIONS FOR THE BACHELOR OF VETERINARY MEDICINE DEGREE

1. The degree of Bachelor of Veterinary Medicine (B.Vet.Med.) will be awarded by the University Senate to a student who has completed to the satisfaction of the Examiners the required course of study, including Preclinical and Clinical studies.

2. The normal length of undergraduate studies is six years subject to modifications arising from application of regulations concerning courses credited from other programmes and progression from one year of study to the next. The programme consists of one pre-veterinary, two pre-clinical, one paraclinical and two clinical years, and includes three periods of practical vacational training.

3. University Examinations

   Written and, where appropriate, practical and/or oral examinations will be held at the end of each academic year for those courses taught by the School of Veterinary Medicine. Examinations for the courses taught by other Schools will be held as to the requirements of the Schools.

4. The Examiners for all courses shall be Professors and Lecturers in the School and such additional Examiners as may be appointed by the University Senate on the recommendation of the Board of Studies of the School of Veterinary Medicine.

5. External Examiners may participate in the University Examinations held during 3rd, 4th, 5th and 6th years of the programme.

6. No candidate shall, without permission of the Senate granted on the recommendation of the Board of Studies, present him/herself for examination in any course unless he has/she attended and duly performed the work prescribed for the course.

7. A student will be deemed to have passed a course if she/he attains a Grade of C or above. The percentages allocated to theory, practical and oral examinations, and continuous assessment carried out during the year, are shown on pages 9-10.

8. The following grades shall be used in assessing the performance of a candidate in a course. There shall be seven pass grades and four fail grades as follows:

A+	Distinction
A	Distinction
B+	Merit

B	Merit
C+	Pass
C	Bare Pass
D+	Bare Fail
D	Fail
NE	No Examination Taken
LT	Left without permission
P	Pass in Supplementary Examination.
F	Fail in Supplementary Examination.

9. Supplementary Examinations

On the recommendation of the Board of Studies the Senate may allow a student to take a supplementary examination under the following conditions conditions:

a) A pass in at least 2 full courses with a grade C+ or better and;
b) A pass in the continuous assessment part of the failed course.
c) Supplementary examinations will be granted to a student in not more than two full course equivalents in any one year. The grade awarded will be either Pass or Fail.

10. Repeat Year

The Senate may on the recommendation of the Board of Studies allow a candidate in 3rd or 4th or 5th year to repeat all courses in the following academic year where:-

a) A candidate does not qualify for a supplementary examination in a failed course.
b) A candidate fails less than three full courses.
c) A candidate fails a supplementary examination.

11. The University Senate may, on the recommendation of the Board of Studies allow a student to repeat the year if he produces documentory evidence to to prove that he has been prevented from participating satisfactorily in classes due to illness or other unavoidables causes.

12. Part-Time

The University Senate may, on the recommendation of the Board of Studies allow a second year student to enroll on a part-time basis under the following conditions:

a) A candidate fails not more that one course equivalent but fails to qualify for a supplementary examination.
b) A candidate failing not more than one course equivalent in a supplementary examination.

13. Exclusion

The University Senate may, on the recommendation of the Board of Studies,

exclude from study in the School of Veterinary Medicine.

a) Any candidate who fails three or more full courses in any one year.
b) Any candidate who fails a course in a repeat year or part-time studies
c) Final year students who fail a course and do not pass or qualify for supplementary examinations are allowed to repeat the year once.
d) A second year student, if he has failed in any one course and does not qualify for supplementary examinations or part-time study, or fails in more than one course equivalent in supplementary examinations or after part-time study.

14. Deferred Examination

The University Senate may, on recommendation of the Board of Studies, grant deferred examinations to a candiate who has been prevented from presenting him/herself for examination due to illness or other unavoidable cause. An application for deferred examinations must be supported by a medical certificate obtained at the time of illness, or other documentation to show cause for absence.

15. Withdrawals

A student may request withdrawal from a course from the Dean of the School, and if allowed, a grade of WP, withdrawn with permission, will be given. If the student withdraws within three weeks of the commencement of the course, no grade will be recorded. If a student withdraws without permission, a grade of LT will be recorded.

Course Assessment

Course	Continuous Assessment	University Examinations Theory	Practical Oral
	%	%	%
VMB 210	40	60	
VMB 211	30	60	10
CA 210	40	60	
AGG 311	40	60	
AGA 332	40	60	
AGC 342	40	60	
VMB 310	20	50	30
VMB 315	30	40	30
VMB 320	40	50	10
VMB 330	40	50	10
AGA 320	40	60	
VMB 303			Satisfactory/ Unsatisfactory
VMP 410	30	40	30

VMB 425	30	50	20
VMP 430	30	40	30
VMP 440	30	40	30
AGA 450	40	60	30
VMP 403			Satisfactory/ Unsatisfactory
VMD 515	40	40	20
VMC 510	30	40	30
VMD 530	30	40	30
VMC 520	30	40	30
VMC 535	30	40	30
VMD 511	40	40	20
VMC 503			Satisfactory/ Unsatisfactory
VMC 610	30	40	30
VMD 611	40	40	20
VMD 612	30	50	20
VMC 620	30	40	30
VMC 635	30	40	30
VMD 630	30	40	30

Vacation Practicals

Before a student is allowed to qualify at the end of the sixth year he/she will have satisfactorily undertaken vacation practicals as stipulated below:-

a) VMB 303 Farm Practicals involving staying on a selected farm within Zambia for 8 weeks during the vacation afterthe 3rd year.

b) VMP 403 Laboratory practicals at either the Government Central Veterinary Research Institute or the School of Veterinary Medicine for 8 weeks during the vacation after 4th year.

c) VMC 503 Veterinary Clinical practicals in Government or private veterinary practice and abbattoirs within Zambia for 8 weeks during the vacation after 5th year.

Qualifications

The degree of Bachelor of Veterinary Medicine (B.Vet. Med.) will be conferred on those that have fulfilled the requirements of the sixth year examination after approval by the Senate of the University of Zambia.

THE CURRICULUM

COURSES AND DEGREE STRUCTURE

In the curriculum the letters used to indicate course numbers should be interpreted as follows:

BZ, C, M, P, & CA Courses taught by the School of Natural Sciences

AGG/AGA	Courses taught by the School of Agricultural Sciences.
VMB	Courses taught by the Department of Biomedical Sciences.
VMP	Courses taught by the Department of Paraclinical Studies.
VMC	Courses taught by the Department of Clinical Studies.
VMD	Courses taught by the Department of Disease Control.

The digits used to number the courses should be interpreted as follows:

The 1st digit indicates the year the course is normally taken.
The 2nd digit indicates the subject area.
The 3rd digit indicates the time the course is taken.

(0) - full course taught over one academic year
(1) - half course taught in the first half year
(2) - half course taught in the second half year
(3) - half course taken during vacation
(5) - half course taught throughout the academic year.

The courses are as follows:

Year	Course No.	Subject Matter	Unit
1	BZ 110	Introductory Biology	1
	C 110	Introductory Chemistry	1
	M 110	Introduction to Mathematics	1
	P 110	Introductory Physics	1
2	VMB 210	Veterinary Anatomy & Physiology	1
	VMB 211	Veterinary Embryology	½
	CA 210	Organic Chemistry & Biochemistry	1
	AGG 311	Probability & Statistical analysis	½
	AGA 332	Animal genetics and breeding	½
	AGC 342	Forage Crops Pasture and Range Management	½
3	VMB 310	Veterinary Anatomy	1
	VMB 315	Veterinary Histology	½
	VMB 320	Veterinary Physiology	1
	VMB 330	Veterinary Biochemistry	1
	AGA 320	Basic and Applied Animal Nutrition	1
	VMB 303	Farm Practicals	½
4	VMP 410	Veterinary Pathology	1
	VMB 425	Veterinary Pharmacology	½
	VMP 430	Veterinary Microbiology	1
	VMP 440	Veterinary Parasitology	1
	AGA 450	Animal Production	1
	VMP 403	Veterinary Laboratory Practicals	½
5	VMD 530	Clinical Pathology	1
	VMC 510	Clinical Veterinary Medicine I	1
	VMD 515	Infectious Diseases of Livestock	½
	VMD 511	Veterinary Epidemiology & Economics	½
	VMC 520	Veterinary Surgery I	1

	VMC 535	Veterinary Reproduction and Obstetrics I	½
	VMC 503	Veterinary Clinical Practicals	½
6	VMD 611	Preventive Veterinary Medicine	1½
	VMD 630	Veterinary Public Health	1
	VMD 612	Veterinary Extension & Jurisprudence	½
	VMC 620	Veterinary Surgery II	1
	VMC 635	Veterinary Reproduction and Obstetrics II	½
	VMC 610	Veterinary Medicine II	1

FIRST YEAR (NATURAL SCIENCES)

Course No.	Description
BZ 100	INTRODUCTORY BIOLOGY An introduction to the most important areas of biology Basic cell biology, animal structure, function and physiology. Plant structure, function and physiology. Genetics, ecology, evolution and diversity of animals and plants.
C 110	INTRODUCTORY CHEMISTRY An introductory course in chemistry covering such topics as stoichiometry, atomic and molecular structure, the periodic table, chemical reactions, equilibrium and simple organic compounds.
M 110	INTRODUCTION TO MATHEMATICS Preliminary algebra, introductory set theory, elementary functions, analytical geometry and vector analysis, matrices and determinants, calculus.
P 110	INTRODUCTORY PHYSICS Basic principles of matter structure, density and mechanical properties. Geometrical optics reflection, refraction, mirrors, lenses and simple instruments. Mechanics - kinematics, dynamics, circular, statics and motion, vibrations and waves. Heat - thermometry, simple lunetic theory, specific heat and elements of thermodynamics. Electricity and magnetism - electrostatics, D.C. circuits, the magnetic fields, A.C. circuits. Modern physics - the atom and radio activity. Associated laboratoary course.
SECOND YEAR	
VMB 210	VETERINARY ANATOMY AND PHYSIOLOGY General Anatomy: terminology, body regions, different organ systems. Skull, vertebral column.

general skeleton.

Physiology: general cell physiology. Nerve cell and muscle physiology blood and body fluids. General endocrinology.

Cytology: The cell and its components: cell membrane, nucleus, organelles, cytoplasm. Cell division.

General Histology: Epithelia, connective, supportive, muscular and nervous tissues, blood.

VMB 211 VETERINARY EMBRYOLOGY

Introduction, primary organs of reproduction and gametogenesis, fertilisation, cleavage and formation of morula and blastula, gastrulation and formation of the germ layers.
Establishment of the embryonic membranes and body structures, development of organ systems in avian and mammalian embryos.

CA 210 ORGANIC CHEMISTRY AND BIOCHEMISTRY

Broad coverage of organic chemistry whose treatment is factual in nature.
Bonding in organic compounds, isomerism, reaction of organic functional groups and their derivatives, synthetic transformations and compounds of biological importance. Analytical chemistry, precipitation, acid base, redox equilibria. The major constituents of the cell, their chemical structure, function and analysis including carbohydrates, lipids, proteins and nucleic acids. Biochemical energetics and properties of enzymes.

AGG 311 PROBABILITY AND STATISTICAL ANALYSIS

Summation and product operations. Random variable, sample space and sampling techniques. Summary of the data. Normal probability distribution and related distributions. Statistical estimations.
Normal population:- interference about population mean and population variance, comparison of two population means, comparison of two population variances. Regression analysis. Analysis of variance. Chi-squared analysis. Experimental designs. Procedures in scientific experimentation.

AGA 332 ANIMAL GENETICS AND BREEDING

Introduction to basic process of inheritance, basic Mendelian genetics - segregation, linkage, mutation and independent assortment; multiple alleles, sex linkage, sex determination, elements of population genetics. Quantitative genetics - variation, normal distribution, correlation, regression, heritability, repeatability. Selection - response to selection, types of selection, selection methods.

Breeding systems - in-breeding, out-breeding, cross-breeding coefficient of breeding, relationship, heterosis, species - hybridization.
Artificial insemination in livestock genetic improvement.

AGC 342 FORAGE CROPS, PASTURE AND RANGE MANAGEMENT
Introduction to forage crops, historical review of evolution of grass and legumes.
Physiology of grasses and legumes, establishment of pasture and legumes; pasture management and carbohydrate reserves, antiquality factors, forage conservation and wet storage systems, seed production.
Forage quality and utilisation, grazing behaviour.

THIRD YEAR

VMB 310 VETERINARY ANATOMY
Systematic, topographic and applied anatomy of the digestive respiratory, urinary, reproductive, cardiovascular and lymphatic systems; eye, ear, hoof and mammary glands.
Emphasis in the course will be on the cow with comparisons to the horse, dog, pig, sheep, goat and birds.

VMB 315 VETERINARY HISTOLOGY
Histological structure of the nervous, cardiovascular, respiratory, digestive, reproductive, urinary and lymphatic systems. Eye and ear. Endocrine system. Integument.
Reference will be made to anatomical, physiological and histopathological conditions whenever appropriate.

VMB 320 VETERINARY PHYSIOLOGY
Descriptive, quantitative and comparative analysis of the normal functioning of the nervous, endocrine, cardiovascular digestive, renal, respiratory and reproductive systems of domestic animals. Physiology of lactation and growth. Homeostasis with emphasis on acid - base balance, water balance, electrolyte homeostasis, glucose homeostasis, thermoregulation. Environmental physiology. Neonatal physiology.

VMB 330 VETERINARY BIOCHEMISTRY
Protein structure and functions, plasma proteins, haemoglobin. Energy metabolism, enzymes. Carbohydrates, digestion and metabolism. Lipids, digestion, transport and metabolism, prostaglandins, steroids. Rumen biochemistry and ruminant energy metabolism. Lactation. Nitrogen balance and amino acid metabolim. Excretion and detoxication. Vitamins. Nucleotides, porphyrins, bile pigments. Nucleic acid structure, function, replication. Genetic code and protein synthesis. Mineral metabolism. Metabolic regulation. Biochemistry of

individual tissues. Biochemical veterinary investigations.

AGA 320 BASIC AND APPLIED ANIMAL NUTRITION

Chemical constituents of plants and animal body, properties and role of water in nutrition. Digestion and metabolism of protein carbohydrates, fat and minerals in ruminants and non-ruminants: methods of estimating feed value, chemical analysis, gross energy, digestion coefficients, total digestible nutrients, digestible energy, net energy, starch equivalent. Nutrient sources - protein, energy, minerals and vitamins for farms animals.
Principles and practical computation of rations for livestock and poultry. Specific aspects of the nutrition of livestock, poultry and fish, feed-lot nutrition.
Nutritional diseases, emphasis on metabolic pathway disorders and food toxins.

Nutrition of pet animals. (for Veterinary students).

FOURTH YEAR

VMP 410 VETERINARY PATHOLOGY

Introduction, history and scope of pathology, its relation with other disciplines, extrinsic, and intrinsic causes of disease. Retrogressive changes including various types of degenerations and infiltrations pigmentation, calcification and necrosis. Disturbances of growth, disturbances of circulation. Defence of body against injury. Gross and microscopic studies of neoplasms of domestic animals including poultry.

Studies of gross and microscopic lesions in cardiovascular, haemopoietic, respiratory, uro-genital, nervous, endocrine, locomotor and digestive systems and sensory organs, skin and appendages.
Pathology and pathogenesis of infectious diseases of domestic animals and poultry.

VMB 425 VETERINARY PHARMACOLOGY

Introduction with drug action, receptor theory, pharmacokinetics, pharmacodynamics. Prescription writing. Routes of administration of drugs.

Autonomic nervous system and smooth muscle pharmacology, peripheral nervous system with neuromuscular blocking drugs and local anaesthetics. Drugs acting on the cardiovascular, renal respiratory, and gastro-intestinal systems. Central nervous system drugs including tranquillisers, sedatives, anaesthetics and anti-epileptic drugs.
Chemotherapy of microbial and parasitic diseases.

Inflammation and its treatment, corticosteriods and their uses.

VMP 430 VETERINARY MICROBIOLOGY AND IMMUNOLOGY

Historical background, classification, morphology, characteristics and physiology of pathogenic organisms including bacteria, mycoplasma, rickettsia and fungi. Microbiological techniques and methods, sterilization and disinfection.

Infection, resistance and immunity, toxin and antitoxin agglutination and precipitation, cytolysis and complement fixation, phagocytosis, anaphylaxis and allergy, modern developments in immunology.

The viruses, general characteristics and methods used in their study, classification and characteristics of each of the important virus groups.

VMP 440 VETERINARY PARASITOLOGY

The biology and morphology of helminths, arthropods and protozoa in relation to the pathogenesis, epidemiology, diagnosis, treatment, control and prevention of diseases (including the zoonoses) caused by metazoan and protozoan parasites of domesticated and wild animals.

AGA 450 ANIMAL PRODUCTION

The husbandry of meat animals with special coverage of beef, sheep, goats, pigs, rabbits and poultry production in Zambia. Different animal management systems. The husbandry of dairy animals with emphasis on systems of dairying, growth and development of dairy animals, breeding plans for dairy cattle, milk production, milking and milk quality. Livestock Production Economics.

FIFTH YEAR

VMD 515 INFECTIOUS DISEASES OF LIVESTOCK

Introduction: General aspects of infectious diseases, their diagnosis, treatment, control and prevention.

Diseases of livestock caused by protozoa, helminths and arthropods, their diagnosis, treatment and control. Viral diseases affecting more than one organ system or the body as a whole; viral diseases of the skin, respiratory, alimentary genital and nervous systems. Bacterial and fungal diseases affecting more than one organ system or the body as a whole; bacterial and fungal diseases of the skin, respiratory, alimentary, urogenital and nervous systems.

VMC 510 CLINICAL VETERINARY MEDICINE I

General Medicine; Clinical examination of farm livestock. Diseases of the newborn including hereditary and congenital

conditions. General systemic states. Diseases of the cardiovascular, gastrointestinal, respiratory, urinary, central nervous, endocrine and musculoskeletal systems. Conditions of the skin, the blood and blood forming organs and the liver. Metabolic, nutritional, stress and allergic conditions.

Bovine differential diagnosis; Differential diagnosis of diseases causing alimentary, nervous, respiratory, integumentary and cardiovascular disorders. These topics to be covered in tutorials given in conjuction with the relevant lectures.

VMD 511 VETERINARY EPIDEMIOLOGY AND ECONOMICS

Introduction to epidemiology: Data and Sources of Data; Tests; Sampling; Measuring; Disease and Productivity; Descriptive Epidemiology; Causation; Observational Studies; Monitoring and Outbreak Investigation. Intervention studies. Introduction to Economics: Prices; Costs; Disease Control planning; Implementation; Monitoring and Evaluation.

VMD 530 VETERINARY CLINICAL PATHOLOGY

Introduction to Clinical Pathology, collection and preservation of diagnostic specimens.
Cytology: Exfoliative cytology, transudate and exudate vaginal smears.
Haematology: Defination of descriptive terms, collection and examination of blood and bone marrow, blood smears, normal blood values, blood cell counting, haemoglobin, erythrocyte, sedimentation rate and packed cell volume, protein, fibrinogen, erythrocyte and its disorders, leukocyte, and its disorders, thrombocytopenia and haemostatic disorders, interpretation of haemotological findings in relation to disease.
Clinical Chemistry: Kidney function test, urine analysis, clinical enzymology, liver function tests, pancreatic function tests, cardiovascular disease tests, caicium, phosphorus and metabolic bone disorders, cerebro-spinal fluid examination, serum biochemistry abnormalities, thyroid function.
Dermatology: Mycotic and parasitic skin lesions.
Autopsies: Attendance at Post-Mortem examinations in the P.M room and farms.

VMC 520 VETERINARY SURGERY I - ANAESTHESIOLOGY & RADIOLOGY

General Principles of surgery, sterile techniques, fluid therapy and shock. Burns and other skin lesions.
Veterinary Radiology; History, radiation safety, the X-ray machine and accesory equipment. Density and contrast, Radiographic positioning, development and interpretation, radiotherapy.

Veterinary Anaesthesia: The principles of veterinary anaesthesia, local, regional, spinal, epidural and lumbar analgesis. Premedication and general anaesthesia.
Surgery: Abdominal incisions. Surgery of the digestive system, organs of the head and neck, hernia, heart and great vessels, urogenital systems, liver, spleen, pancreas, tendons and fascia, fractures and joints, neoplasms, amputations, vertebral column and spinal cord.

VMC 535 VETERINARY REPRODUCTION AND OBSTETRICS I

Revision of the anatomy of the reproductive system and associated structures, the physiology of reproduction, embryo development, foetal membranes and the gestation period, development anomalies and teratology, physiological parturition and the postpartum period, care of the new born, the pathology of the gestation period and infertility in male and female animals.
The types, causes, diagnosis and treatment of dystocia, procedures before handling dystocia and obstetrical operations. Surgery of the female and male genital organs. The physiology and pathology of lactation, surgical operations of the mammary glands.

SIXTH YEAR

VMC 610 VETERINARY MEDICINE II

Continuation of Veterinary Medicine I with more practical orientation and ambulatory service.

VMD 611 PREVENTIVE VETERINARY MEDICINE

Introduction: Livestock production system and diseases, livestock movement control, vaccination and vaccination campaigns, environmental hygiene, depopulation, test and slaughter methods, strategic treatment and chemoprophylaxis vector control strategies, new developments, issues in planning control programmes.

Planning and implementation of health and productivity schemes, specific programmes in selected livestock enterprises.

Selected diseases of poultry and fish with emphasis on population diagnosis, and specific prevention and control measures. Health and productivity schemes in poultry interprises.

VMD 612 VETERINARY EXTENSION AND JURISPRUDENCE

Administration and Organisation of Veterinary Services and Schemes for livestock development and animal health. The relationship of the veterinarian to the public and collegues. The administration of Legal Acts involving

animal health and production, veterinary clinical services, and livestock and wildlife control.

VMC 620 VETERINARY SURGERY II

Continuation of Veterinary Surgery I with more practical orientation and ambulatory services.

VMD 630 VETERINARY PUBLIC HEALTH

Role of the Veterinarian in Veterinary Public Health. Food hygiene: Food use of organs and tissues. The processing and preservation of food. Prevention of food-borne diseases and food-poisoning. General pathology of animals in relation to food hygiene and food additives.

Meat and milk hygiene: The construction, layout and sanitation of abattoirs, management of animals before slaughter, ante-mortem inspection, method of slaughter. Preparation of carcasses and offals. Post-mortem veterinary inspection. Bacteriology of meat and milk, and factors spoiling quality of milk and meat. Treatment and use or disposal of by-product and condemned meat. Inspection and control of poultry meat and fish. The hazards of milk hygiene and processing.
Environmental hygiene: Air and water pollution. Bacteriological and biochemical inspection of drinking and industrial water. Treatment of the industrial and general abandoned materials and water. Eradication of injurious insects, rats and others.

Zoonoses: Definition and classification of zoonoses. Epidemiology of zoonotic diseases. Prevention and eradication of zoonoses.

Laboratory animals: Hygiene feeding, management methods, prevention of infectious diseases of laboratory animals.

VMC 635 VETERINARY REPRODUCTION AND OBSTETRICS II

Continuation of Veterinary Reproduction and Obstetrics I with more practical orientation and ambulatory services.

Artificial Insemination:
Historical background, advantages and disadvantages, revision of genital organs; semen production, composition and conservation, the art of artificial insemination conception rates, non-return rates and factors affecting the reproductive efficiency; records, oestrous synchronisation and embryo transfer in livestock improvement programmes, management and selection of artificial insemination animals, application of artificial insemination in livestock improvement programmes, the organisation of national artificial insemination services.

TEXTBOOKS (for courses taught by the School of Veterinary Medicine)

VMB 210 VETERINARY ANATOMY AND PHYSIOLOGY

Junqueira, L.C. & Carheiro, J. Basic Histology Latest Edition.

Ganong, W.F. Review of Medical Physiology. Latest Edition.

Dyce, Lack and Wensing, Textbook of Veterinary Anatomy 1987 Edition.

VMB 211 VETERINARY EMBRYOLOGY

Noden, D.M. and de Lahunta, A. The Embryology of Domestic Animals. 1985 Edition.

VMB 310 VETERINARY ANATOMY

Nickel, R. Schummer, A. and Seiferle, E. The Viscera of Domestic Mammals. Latest Edition.

Nickel, R., Schummer, A. and Seiferle, E. Anatomy of the Domesti Birds. Latest Edition.

de Lahunta, A. and Habel, R.E. Applied Veterinary Anatomy Latest Edition.

Garrett, P.D. Guide to Ruminant Anatomy based on the Dissection of the Goats.

VMB 315 VETERINARY HISTOLOGY

Dellmann, H. and Brown, E.M. Textbook of Veterinary Histology. Latest Edition.

Banks, W.M.J. Applied Veterinary Histology. Latest Edition.

VMB 320 VETERINARY PHYSIOLOGY

Ganong, W.F. Review of Medical Physiology. Latest Edition.

Swanson, M.J. Duke's Physiology of Domestic Animals. Latest Edition.

VMB 330 VETERINARY BIOCHEMISTRY

Laboratory Manual for VMB 330.

Devlin, T.M. Textbook of Biochemistry with Clinical Correlations 1986.

Martin Jr. D.W., Mayers, P.A. and Rodwell, V.W. Harper's Review of Biochemistry. 1983.

Stryer, L. Biochemistry. 1988.

Smith, E.L., Hill, R.L., Lehman, I.R., Lefrowitz, R.J., Handler, P and White, A. Principles of Biochemistry II. Mammalian Biochemistry. 1983.

VMP 410 VETERINARY PATHOLOGY

Thomson, R.G. Special Veterinary Pathology. D.C. Decker, 1988.

VMB 425 VETERINARY PHARMACOLOGY

Brander, Pugh and Bywater. Veterinary Applied Pharmacology and Therapeutics. 4th Edition. 1982.

Kellerman, Coetler and Naude. Plant Poisonings and Mycotoxicoses of Livestock in Southern Africa. 1988 Edition.

VMP 430 VETERINARY MICROBIOLOGY

Tizard, I. Veterinary Immunology. An Introduction. 3rd Edition, 1987.

Fenner, F. et al. Veterinary Virology. 1987.

Carter, Claus and Rikisha. Essential of Veterinary Bacteriology 3rd Edition, 1986.

Outterridge. Veterinary Immunology. 1985.

Timoney, J.F., Gillepsie, J.H., Scott, F.W. and Barloven, J.E., Hagan and Bruner's Microbiology and Infectious Diseases of Domestic Animals. 8th Edition, 1988.

VMP 440 VETERINARY PARASITOLOGY

Kreier, J.P. Parasitic Protozoa (4 volumes)

Kettle, D.S. Medical and Veterinary Entomology. 1984

Soulsby E.J.L. Helminths Anthropods and Protozoa of Domesticated Animals . 7th Edition, 1982.

VMC 510 VETERINARY CLINICAL MEDICINE I

Chandeler, E.A. Canine Medicine and Therapeutic.

VMC 520 VETERINARY SURGERY I - ANAESTHESIOLOGY & RADIOLOGY

Piermattei and Greeley, Atlas of Surgical Approaches to the bones of Dogs and Cats.

Turner and Mcl'lwraith, C.W. Techniques in Large Animal Surgery

Adams, O. Lameness in Horses.

VMD 515 INFECTIOUS DISEASES OF LIVESTOCK

Blood, D.C., Radostis, O.M. Veterinary Medicine. 7th Edition, 1989.

Timoney, J.F., Gillepsie, J.H. Scott, F.W. and Barlovem, J.E. Hagan and Bruner's Microbiology and Infectious Diseases of Domestic Animals. 8th Edition, 1988.

Leman, A.D. et al. Diseases of Swine. 6th Edition, 1986

Rosenberger, G. Clinical Examination of Cattle, 1979.

Fraser, C.M. et al. The Merck Veterinary Manual. 6th Edition, 1986.

VMD 511 VETERINARY EPIDEMIOLOGY AND ECONOMICS

Martin, S.W., Meek, A.H., and Willeberg, P. Veterinary Epidemiology : Principles and Methods, 1987.

Putt, S.N.H., Shaw, A.P.M., Woods, A.J., Tyler, L. and James, A.D. Veterinary Epidemiology and Economics, ILCA, 1987.

Thrusfield, M.V. Veterinary Epidemiology, 1986.

VMD 530 VETERINARY CLINICAL PATHOLOGY

Doxey, D.L. Clinical Pathology and Diagnostic Procedures 2nd Edition. 1983.

Jain, N.C. Schalm's Veterinary Haematology, 4th Edition, 1986.

Kelly, W.R. Veterinary Clinical Diagnosis, 3rd Edition, 1984.

Coles, E.H. Veterinary Clinical Pathology, 4th Edition, 1986.

Benjamin, M.M. Outline of Veterinary Clinical Pathology, 3rd Edition, 1986.

Kaneko, J.J. Clinical Biochemistry of Domestic Animals, 3rd Edition, 1980.

VMD 611 PREVENTIVE VETERINARY MEDICINE

Schwabe, C. Veterinary Medicine and Human Health, 3rd Edition, 1984.

Radostis, O.M.& D.C.Blood. Herd Health: A Textbook of Health and Production Management of Agricultural Animals. 1985.

Hofstad, M.S. et al. Diseases of Poultry, 8th Edition, 1984.

VMD 612 VETERINARY EXTENSION AND JURISPRUDENCE

Sharma, S.N. Veterinary Jurisprudence. 1985.

Adams, M.E. Agricultural Extension in Developing Countries, 1984.

VMD 630 VETERINARY PUBLIC HEALTH

Schwabe, C. Veterinary Medicine and Human Health. 3rd Edition, 1979.

Rieman, H. and Bayan, F.L. Food-borne Infectious and Intoxications 2nd Edition, 1979.

Hobbs, B.C. and Roberts, D. Food Poisoning and Food Hygiene. 5th Edition, 1987.

Gracey, J.F. Meat Hygiene.. 8th Edition, 1986.

Hubbert, W.T. et al. Diseases Transmitted from Animals to Human.

Purdom, P.W. Environmental Health. 2nd Edition, 1980.

VMC 610 VETERINARY MEDICINE I

Chandler, E.A., Feline Medicine and Therapeutics

Hendersen, J.A. Veterinary Medicine Blood D C Radostits

VMC 620 VETERINARY SURGERY II

Witticks, W.G. Canine Orthopaedics.

Slatter, D.H. Textbook of Small Animal Surgery, Vol. I and II

Catcott, E.J. Equine Medicine and Surgery.

PRIZES FOR DISTINGUISHED PERFORMANCE

The School has the following Prizes which are donated by the sponsors. On the recommendation of the Prizes and Scholarship Committee all prizes are awarded by the University Senate.

1. The Wellcome (Z) Limited Prize for outstanding graduating student.
2. Veterinary Association of Zambia Prize for best final year student in Veterinary Medicine.
3. Arthur George Calder Memorial Prize to best student in Veterinary Surgery.
4. The Chempro (Z) Ltd Prize for best student in Reproduction and Obstetrics.
5. Lusaka Hindu Association Prize for best student in Veterinary Public Healt
6. Lusaka Hindu Association Prize for best student in Veterinary Pathology.
7. Prof. R.P Lee Prize for best student in Parasitology.
8. Shell Chemicals (Z) Ltd. Prize for best 3rd year student..
9. JICA Prize for best fifth year student of the year.
10. JICA Prize for best fourth year student of the year.

STAFF DEVELOPMENT PROGRAMME

Since 1989 when the first graduates from the School became available there have been Staff Development Fellows in various Departments. Of the first few Staff Development Fellows, 4 have gone on to further degree studies in the U.K. and 2 to Japan. The first 2 House Surgeons have completed their postgraduate studies and are now full members of staff of the School. There are at any one time up to four Staff Development Fellows within the School and they stand a good chance of advancing up the academic career ladder. On the non-academic side of postgraduate training there are up to two House Surgeons within the Clinical Studies Department augmenting the clinical staff capabilities, and one in the Department of Paraclinical Studies in the field of Pathology.

HIGHER DEGREES IN THE SCHOOL OF VETERINARY MEDICINE

It is possible for postgraduate students to register for Masters and Ph.D. degrees by research. There are several students registered for such Masters degrees and one has been accepted for Ph.D. studies in the Department of Biomedical Sciences.

From 1991/92 it will be possible to register for a Master's Degree in Veterinary Medicine (M.Vet.Med.) by coursework. The first such degree will be in Diagnostic Veterinary Medicine.

REGULATIONS

In addition to the general University regulations for the Degree of Master the following shall apply:-

ADMISSION REQUIREMENTS

1. The minimum qualification for admission as candidate for the degree of Master of Veterinary Medicine will be a Bachelor of Veterinary Medicine degree of the University of Zambia of sufficiently high standard or the equivalent from another University or Institution;

2. The candidate will normally have also been in full time veterinary practice for at least one year after graduation;

3. The candidate may be required to undergo such tests, or take other prerequisite or concurrent studies and examinations which the school may prescribe.

DURATION AND STRUCTURE OF THE DEGREE PROGRAMME

The Master's Degree programme in Diagnostic Veterinary Medicine is made up of 2 parts: Part I consists of advanced courses, equivalent to an Academic year of study. Part II consists of research under supervision on an approved subject, carried out during the subsequent twelve months and leading to the submission of a dissertation. Normally no

candidate will be permitted to proceed to Part II unless he/she has passed all the courses in Part I.

PART I CURRICULUM

The curriculum for Part I consists of the following components, consisting of three full courses and one half course:-

Diagnostic Pathology	VMM 710
Clinical Microbiology	VMM 730
Clinical Parasitology	VMM 740
Scientific Methodology	VMM 790

There are written examinations at the end of the coursework and final assessment is based on performance in these examinations and in other exercises that constitute the courses. A candidate who fails in one course may take a supplementary examination but on failing the supplementary will be excluded from the programme. A candidate who fails more than one course will be excluded from the programme. A draft research proposal must be prepared for submission prior to the examination.

The pass mark will be 50% and the assessment will be made up as follows:

a) Continuous assessment (including practical tests, laboratory reports, seminars and assignments) 50%
b) Final written examination 50%

Part I Course Content

VMM 710 DIAGNOSTIC PATHOLOGY

a. Clinical Pathology: Collection, preservation and shipment of specimens. Advances in haematology, cytology, biopsy techniques, clinical chemistry.

b. Necropsy: Instruction and practice in the diagnosis of animal disease by means of necropsy and related laboratory techniques. Emphasis will be placed on correlation and interpretation of gross microscopic lesions and results of other tests. Lesion interpretation and correlation with aetiology and pathogenesis of disease. The use of instruments in necropsy procedures. Forensic pathology.

c. Histopathology: An advanced and comprehencive study of histopathological aspects of systematic and special pathology including interpretation of electronmicrographs. Selected aspects such as digestive system, cardio-pulmonary and urogenital system pathology will be studied. Pathology of infective, toxic, nutritional deficiency, neuropathological and oncological diseases of domestic animals with an emphasis on ruminants.

d. Tropical Diseases: Lectures on common tropical diseases of domestic animals with special reference to pathology and clinical pathology leading to diagnosis.

LECTURE HOURS
Lectures : 60 hours at 2 hours per week
Practicals : 90 hours at 3 hours per week
Seminars : 10 hours at 1 hour each

VMM 730 CLINICAL MICROBIOLOGY

a. Bacteriology and Mycology : Advances in bacterial, rickettsial, mycoplasmal and fungal classification. Ultrastructure of bacteria Mechanisms of pathogenesis. Bacterial genetics in relation to metabolism and pathogenesis.
Identification of aetiological agents of animal diseases important to the region. The serological typing of bacteria for example Salmonella serovars and Escherichia coli. The isolation of bacterial antigens, e.g. streptococcal antigens. Bacterial exotoxins and endotoxins and related tests. Bacterial plasmids and drug resistance. Drug sensitivity testing.
The use of immuno-fluorescent techniques, antibody separation and purification.ELISA techniques for the identification of bacterial antigens. Novel approaches to bacterial vaccines.

b. Virology: The study of viruses in tissue and cell culture and their propagation. Titration and neutralisation of viruses. Isolation and identification of viruses from clinical material. The ultrastructure of viruses. The passage of viruses in different cell culture systems. Vaccine production including modern methods such as the use of recombinant DNA technology. The use of immunological tests for the diagnosis of viral diseases. Recent developments for rapid viral antigen detection, including adaptations of the ELISA technique such as the Dot-immunobinding assay.

LECTURE HOURS
Lectures : 60 hours at 2 hours per week
Practicals : 90 hours at 4-5 hours per week
Seminars : 10 hours at 1 hour each

VMM 740 CLINICAL PARASITOLOGY

a. Entomology: Identification of arthropods of veterinary importance with special emphasis on Ixodidae and Glossinidae with reference to: taxonomy, biochemistry, physiology, morphology, host immune responses, host-parasite-vector interactions, bionomics, and ecology. Practicals in the collection, identification, dissection and rearing techniques for Ixodidae and Glossinidae will be conducted.

b. Protozoology: Emphasis will mainly be on economically important diseases in the region such as trypanosomiasis, tick-borne

diseases and coccidiosis. Other diseases such as toxoplasmosis also important in public health will be covered. Emphasis will be placed on biochemistry, physiology, pathogenicity and epidemiology of these parasites, together with clinical aspects and control strategies. Modern serological diagnostic methods, for parasite identification. Practicals will be conducted in field and laboratory techniques including parasite isolation and cloning.

c. Helminthology: Identification of helminths of economic and zoonotic importance with particular reference to parasite ultrastructure and metabolism, drug resistance and host immunity, and their implications in parasite control. Practical sessions will involve field surveys and collection techniques, immunological and other diagnostic methods.

LECTURE HOURS

Lectures : 60 hours at 2 hours per week
Practicals : 90 hours at 3 hours per week
Seminars : 10 hours at 1 hour each

VMM 790 SCIENTIFIC METHODOLOGY

a. Scientific Communication: Library use, literature searches. Hypothesis formation. Writing of research proposals and protocols Writing of scientific reviews and papers. Oral and other presentations, lecture techniques and use of audio-visual aids.
b. Statictics: Experimental design. Data collection and collation. Data processing. Statistical methods such as probability, variance, regression analyses, population distribution. Data presentation.
c. Computer use: Introduction, word processing, data bases, data handling.
d. Laboratory Management.

LECTURE HOURS

Lectures : 40 hours at 3 hours per week
Practicals : 40 hours at 4 hours per week

PART II CURRICULUM

The dissertation submitted in partial requirement for the degree will be examined by a Board of Examiners appointed by Senate which will include an external examiner. The Board may call candidates for oral examination. The Board will recommend that the dissertation should pass, pass subject to minor corrections, or not pass. If the dissertation does not pass, the School may recommend to Senate that the candidate may re-submit the dissertation in amended form after 3 to 6 months. A candidate whose dissertation fails to pass at a second examination will be excluded from the programme.

THE UNIVERSITY OF ZAMBIA

SESSIONAL DATES FOR 1992/93 ACADEMIC YEAR

SEN/15/92

TERM I

WEDNESDAY	26TH FEBRUARY, 1992	ARRIVAL & REGISTRATION OF 1ST YEAR STUDENTS
WEDNESDAY	4TH MARCH, 1992	ARRIVAL & REGISTRATION OF RETURNING STUDENTS
MONDAY	9TH MARCH, 1992	CLASSES BEGIN
FRIDAY	27TH MARCH, 1992	LAST DAY OF LATE REGISTRATION
SATURDAY	9TH MAY, 1992	GRADUATION CEREMONY
FRIDAY	15TH MAY, 1992	CLASSES END
SATURDAY	16TH MAY, 1992	HOLIDAY BEGINS

RESIDENTIAL SCHOOL

SUNDAY	17TH MAY, 1992	ARRIVAL OF CORRESPONDENCE STUDENTS
MONDAY	18TH MAY, 1992	RESIDENTIAL SCHOOL BEGINS
FRIDAY	29TH MAY, 1992	RESIDENTIAL SCHOOL ENDS

TERM II

SUNDAY	31ST MAY, 1992	STUDENTS RETURN
MONDAY	1ST JUNE, 1992	CLASSES BEGIN
FRIDAY	7TH AUGUST, 1992	CLASSES END
SATURDAY	8TH AUGUST, 1992	HOLIDAY BEGINS

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TERM III

SUNDAY	23RD AUGUST, 1992	STUDENTS RETURN
MONDAY	24TH AUGUST, 1992	CLASSES BEGIN
FRIDAY	30TH OCTOBER, 1992	CLASSES END
MONDAY	9TH NOVEMBER, 1992	EXAMINATIONS BEGIN
FRIDAY	27TH NOVEMBER, 1992	EXAMINATIONS END
SATURDAY	28TH NOVEMBER, 1992	HOLIDAY BEGINS
TUESDAY	29TH DECEMBER, 1992	PUBLICATION OF RESULTS

SUPPLEMENTARY AND DEFERRED EXAMINATIONS

MONDAY	25TH JANUARY, 1993	SUPPLEMENTARY AND DEFERRED EXAMINATIONS BEGIN
FRIDAY	29TH JANUARY, 1993	SUPPLEMENTARY AND DEFERRED EXAMINATIONS END
THURSDAY	4TH FEBRUARY, 1993	PUBLICATION OF RESULTS

1993/94 ACADEMIC YEAR

MONDAY	1ST MARCH, 1993	REGISTRATION OF 1ST YEAR STUDENTS

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