UNIVERSITY OF NIGERIA, NSUKKA

FACULTY OF VETERINARY MEDICINE

DEPARTMENT OF VETERINARY SURGERY & RADIOLOGY

M.Sc AND Ph.D DEGREE PROGRAMMES

PHILOSOPHY:

Veterinary surgery is a procedure performed on a diseased animals or its part(s) by veterinarians in to restore it to its normal or close to normal health prior to the sick period. Radiology is the science that uses medical imaging to diagnose and sometimes also treat disease within the body. In keeping with the philosophy of the University of Nigeria, the programme emphasizes the application of veterinary surgical practice to improve animal health and production and alleviate animal suffering for the purpose of providing animal protein for human health. It also emphasizes the use of modern imaging techniques to diagnose animal diseases and treat some diseases. Students are exposed to basic principles of surgical and imaging practices to enhance disease diagnoses and correction/treatment of diseased body part(s) which places surgery at the epicenter of modern veterinary science.

Objectives:

The general objectives of the programme are to provide students with adequate knowledge, attitudes, values and skills generic to veterinary surgical and diagnostic practices. Specifically the programme is drawn to provide students with basic knowledge and methods of:

(1) Classifying surgical conditions in food and pet animals as well as the wild animal species using clinical signs as basis of treatment.
(2) Determining the severity of surgical conditions and prescribes appropriate management procedure/therapy.
(3) Enhancing human welfare through improved animal health and husbandry practices.
(4) Using new skills in veterinary surgery and imaging modalities to mitigate the challenges of ever emerging animal diseases, especially those of surgical interest in different species.
(5) Using imaging technique to evaluate the prognosis of surgical conditions and treatments in food, pet and wild animals
(6) Improving on various veterinary surgical options to improve animal production and breeding technology in other to provide animal proteins for humans.
(7) Using surgery technique to modify animal behaviour to improve animal-human bond and husbandry practice.
(8) Improving the cosmetic appearance of the animal species in other to increase their aesthetic, economic and cultural values.
(9) Increasing the awareness of existing surgical and imaging modalities to improve the human health.

SCOPE:

Veterinary Surgery and Radiology Programme harness appropriate knowledge and methods to incorporate students' penchant and interest in animal health, disease, diagnosis and surgical management in other to make available animal protein for human health. It acquaints students with subject core contents and ethical standards in veterinary surgery practice, imaging modalities and their

uses. The programmes are carefully structured to reflect adequately stressed areas of knowledge, strengthening the ability of students to understand various clinical signs, procedure options and the imaging of different disease conditions prevalent in different breeds and species of animals in our cultural environment. Basic ethical standard in application of imaging and surgical procedures for the safety of animals' patients, animal handlers and good post-surgery prognosis are stressed. In the final analysis, the programme is designed to use the knowledge of surgery and different disease diagnostic procedures to improve animal breeding technique and animal health with the ultimate aim of resolving man's daily need for animal protein, improve family income, human health and welfare. The advantage of different imaging modalities and surgical management options for different animal species, breeds, age and sex are highlighted.

ADMISSION REQUIREMENTS:

a. M.SC. Programme

The following shall qualify for the Master's degree admission:
Graduates of the University of Nigeria or of other recognized universities who have obtained a Doctor of Veterinary Medicine degree with at least CGPA not less than 2.50 on a 5-point scale or its equivalent.

Candidates must possess a good unclassified pass in all his/her professional subjects (i.e. Veterinary Anatomy, Physiology, Biochemistry, Parasitology and Entomology, Microbiology, Pathology, Pharmacology, Public Health and Preventive Medicine, Animal Production and Health, Medicine, Surgery and Clinics).

b. Ph.D Programme

Candidate must possess a good Master's degree in Veterinary Surgery and Radiology from a recognized university, with a minimum CGPA of 3.0/4.0 or 3.5/5.0 or 60% and Project score not lower than 60% (B).

AREAS OF SPECIALIZATION: M.Sc and Ph.D

i. Veterinary Anaesthesiology
ii. Veterinary soft tissue surgery
iii. Veterinary Orthopaedics and Lameness
iv. Veterinary Radiology
v. Veterinary Ultrasonology and other diagnostic Imaging
vi. Veterinary Oncology and Nuclear Medicine
vii. Veterinary Dentistry and Dental technology

DURATION OF PROGRAMMES

M.SC

Maximum and minimum duration of Master of Science programme shall be:

Full-Time: A minimum of 3 Semesters
A maximum of 5 Semesters

Part-Time: A minimum of 5 semesters
A maximum of 8 semesters

PhD

Full-Time: A minimum of 6 Semesters
A maximum of 10 Semesters

Part-Time: A minimum of 8 Semesters
A maximum of 12 Semesters

Requirements for graduation

M.Sc Programme

I) To be awarded the Master of Science degree a student must have taken and passed the prescribed number of compulsory and required courses selected from the approved list, a total of 33 units as follows:

Core courses	27 units
Project report	6 units
Total	33 units

II) In all cases, M.Sc students must write and submit to the department a project report duly supervised by a lecturer in the department whose qualifications are not below the Ph.D. Such a project report must be orally defended before an external examiner nominated by the department and appointed by Senate for that purpose.

Ph.D Programme

To graduate, all Ph.D candidates must take and pass all the requisite courses as prescribed in the Ph.D course list below, a total of 33 units as follows:

Core Courses	9 units
Thesis	24 units
Total	33 units

Every Ph.D. candidate must submit a thesis on a chosen and approved topic, supervised by a member of staff whose qualification is not below the Ph.D, and who is not lower than the rank of a Senior Lecturer. The supervisor must have the approval of the senate of the University.

The Ph.D. thesis must be orally defended before an external examiner duly nominated for that purpose and appointed by Senate of the university.

LIST OF APPROVED SUPERVISORS

Professors

C.A Eze (DVM, MSc, Ph.D, Nig)	Food Animal Surgery
S.O. Udegbunam (DVM, MSc,PhD, Nig)	Small Animal surgery
R.I, Udegbunam (DVM, PhD, Nig)	Veterinary Anaesthesiology

Senior Lecturers

T.O. Nnaji (DVM, Msc, PhD, Nig)	Veterinary Orthopaedics

JOB OPPORTUNITIES

Graduates of this Department have opportunities to undertake advance studies in disciplines associated with veterinary surgery, radiology and other modern imaging techniques, radiation and nuclear medicine. Consultancy and employment opportunities abound in Universities, Research Institute, Pharmaceutical companies, Banks, Army, Customs, Navy, and police force. Graduates of this programme are also trained to work in cattle ranches, Zoo, and International Food Agencies, animal health and other public health institutions/ corporate organization, which require high ethical principles, in testing and standardizing their products. With a degree in veterinary surgery, students gain skills and ability to formulate and defend positions. Thus they are ideal candidates for pursuing a career in government ministries and parastatals. Jobs more closely related to animal production,

production technology, pet-owner relationship and bonds, Counsellor, animal treatments, Peace Corps Officer, and engagement in self-employment as consultants.

STRESS AREAS	**CODES**
Foundational courses	0
Anaesthesiology	1
Diagnostic Imaging and Nuclear Medicine	2
Orthopedic Surgery/Lameness	3
Thoracic Surgery	4
Surgery of Head, Neck and Nervous System	5
Plastic/Reconstructive Surgery	7
Surgery of Alimentary Tract/Urogenital System	8
Research	9

MSc PROGRAMME IN VETERINARY SURGERY

All MSc students are to register and take:

- **(i)** Four compulsory faculty-based courses with a total credit unit load of 14.
- **(ii)** One compulsory Postgraduate course PGC 601 (Research Methodology and application of ICT in Research) (3 credit units).
- **(iii)** Other departmental courses as recommended for the student by the Supervisor / Department based on the student's area of specialization which must constitute a minimum of 16 units.

Compulsory Faculty-based Courses for the MSc programme.

First Semester

Course No.	***Title***	***Units***
FVM 701	Research Methods and Scientific Writing	3
FVM 702	Biometrics and Computer Applications	3
FVM 796	Research Project Final Seminar	2
FVM 790	Research Project	6
	Total -	**14 units**

Compulsory Postgraduate School course for MSc

Course No.	***Title***	***Units***
PGC 601	Research Methodology and application of ICT in Research	3

Departmental Courses

Course No.	***Title***	***Units***
First Semester		
VSR 711	Anaesthesiology	2
VSR 721	Radiology and other Imaging techniques	2
VSR 731	Surgery of Head and Neck	2
VSR 733	Thoracic Surgery	2
VSR 735	Orthopaedic Surgery	2
VSR 737	Surgery of Urogenital System	2
Second Semester		
VSR 730	Alimentary Tract Surgery	2
VSR 732	Neurosurgery	2
VSR 734	Lameness	2
VSR 736	Plastic/Reconstructive Surgery	2
VSR 738	Postsurgical Management and Intensive Care	2
VSR 739	Oncology and Nuclear Medicine	2

Doctor of Philosophy (Ph.D) Degree Programme

All PhD students must register and take the following faculty-based courses totaling 30 credit units plus the Postgraduate School based course, Synopsis and Grant Writing (3 credit units).

Course No.	***Title***	***Units***
FVM 895	Ph.D Research Project Proposal Seminar	2
FVM 896	Ph.D Research Project Progress Report Seminar	2
FVM 897	Ph.D Research Project Final Seminar	2
PGC 701	Synopsis and Grant writing	3
FVM 890	Thesis	24
	Total -	**33 units**

COURSE DESCRIPTIONS

COURSE DESCRIPTIONS FOR THE MASTER OF SCIENCE PROGRAMME

Compulsory Faculty-based Courses

FVM 701 Research Methods and Scientific Writing [3 units]

Definitions, value and philosophy of research. Types of studies / research. Choice of research topics. Definition of background of study, statement of problem, research question, objectives and hypotheses. Research design, sampling, sourcing, collation and analysis of data. Presentation and interpretation of results. Technical report writing. Critique of published papers. Presentation of research findings.

FVM 702 Biometrics and Computer Applications [3 units]

Definitions and value of biometry in scientific research. Variability and normal distribution. Probability, binomial and Poisson distributions. Populations and sampling. Testing differences between means. Students t – test. Chi – square. Correlation and Regression analysis. Analysis of variance. Other relevant statistics. Basics of computer appreciation. Software packages relevant to scientific and veterinary medical research and their use. Presentation of scientific reports.

FVM 796 Research Project Final Seminar [2 units]

Final seminar on M.Sc research project highlighting background of the study, statement of problem, objectives of the study, methods used in carrying out the study and analysis of the data generated, results, discussion of the results and recommendations arising from the findings of the study.

FVM 790 Research Project [6 units]

Research project in the student's area of study, leading to a Project Report that shall be examined by an External Examiner.

Compulsory Postgraduate course

PGC 601 Research Methodology and Application of ICT in Research [3 units]

In-depth research work aimed at acquiring full knowledge and presentations in scholarly writing of the concepts, issues, trends in the definition and development of the study area from African and Western perspectives. Major steps in research: selection of problem, literature, literature review, Design, Data collection, analysis and interpretation, Conclusions. Study of various research designs, Historical, Case studies, Surveys, Descriptive, cross sectional, Experimental etc. Analyses, surveys and synthesis of conceptual and philosophical foundations of different disciplines. Identification of research problems and development of research questions and hypotheses. Detailed treatment of methods of collecting relevant research data and the format for presenting research results (from designing the table of contents to referencing, bibliography and appendix). Data analysis and result

presentation in different disciplines using appropriate analytical tools. Methods of project/dissertation writing. Application of appropriate advanced ICT tools relevant in every discipline for data gathering, analysis and result presentation. Essentials of spreadsheets, internet technology, and internet search engines. All registered Masters Degree students must attend a solution-based interactive workshop to be organized by the School of Postgraduate Studies for a practical demonstration and application of the knowledge acquired from the course, conducted by selected experts.

Departmental Courses

VSR 711 Anaesthesiology [2 units]

Advanced principles of anaesthesia. Anaesthetic equipments and agents. Methods of anaesthesia in small, large, zoo and wild animals. Anaesthetic risks, Pain and pain management.

VSR 721 Radiology and other Imaging techniques [2 units]

X-ray production - positioning of animals for radiography. Contrast studies and Dark room procedures. Readings of radiographs and film interpretation. Principles and applications of ultrasonology, magnetic resonance imaging, Computer Tomography. Errors and discrepancies in interpretation of radiographs and other imaging techniques.

VSR 731 Surgery of the Head and Neck [2 units]

Dental and oral lesions. Affections of the eye and ear. Pharyngeal, Tracheal and

oesophageal surgery.

VSR 733 Thoracic Surgery [2 units]

Surgery of the thoracic wall and diaphragm. Cardiac surgery - congenital and acquired lesions. Hydrothorax and paracenthesis.

VSR 735 Orthopaedics [2 units]

Congenital and developmental lesions of bones. Fractures. Metabolic bone diseases. Osteomyelitis. Bone grafts.

VSR 737 Surgery of Urogenital System [2 units]

Surgery of kidney, ureters, bladder and urethra. Castration and spaying. Ovariohysterectomy. Trauma to female genital tract. Pyometra.

VSR 730 Alimentary Tract Surgery [2 units]

Laparotomy. Congenital and acquired lesions of stomach, rumen and intestines .Surgery of pancreas and spleen.

VSR 732 Neurosurgery [2 units]

Congenital and acquired lesions of brain and vertebral column. Neurological examination. Electromyography.

VSR 734 Lameness [2 units]

Equine and bovine lameness. Restraint. Examination of hoof. Nerve blocks. Radiographic examination and surgical management of specific conditions.

VSR 736 Plastic/ Reconstructive Surgery [2 units]

Burns/Scalds. Trauma. Keloids. Skin grafts. Specific conditions.

VSR 738 Post-Surgical Management and Intensive Care [2 units]

Monitoring of surgical recovery. Shock. Fluid administration. Blood transfusion. Wound break down. Antibiotic therapy during and after surgery.

VSR 739 Oncology and Nuclear Medicine [2units]

Definitions, principles and application of nuclear medicine, specific cases

COURSE DESCRIPTIONS FOR THE DOCTOR OF PHILOSOPHY PROGRAMME

FVM 895 Ph.D Research Project Proposal Seminar [2 units]

Seminar on proposed Ph.D research project highlighting background of the study, review of literature on current state of knowledge of the area of research, statement of problem, objectives of the study, proposed methodology and expected output/significance of the study.

FVM 896 Ph.D Research Project Progress Report Seminar [2 units]

Progress report seminar on the Ph.D research project highlighting background of the study, statement of problem, objectives of the study, methods used so far in the study, results generated, challenges encountered, changes if any in the design of the study and general discussion of the future prospects of the study.

FVM 897 Ph.D Research Project Final Seminar [2 units]

Final seminar on the Ph.D research project highlighting background of the study, statement of problem, objectives of the study, methods used in carrying out the study and analysis of the data generated, results, discussion of the results and recommendations arising from the findings of the study.

PGC 701 SYNOPSIS AND GRANT WRITING [3 units]

Identification of types and nature of grant writing; mining of grants application calls on the internet. Determining appropriate strategy for each grant application. Study of various grant application structures and contents and writing of concept notes, detailed project description, budgeting and budget defense. Study of sample grant writings in various forms and writing of mock research and other grants. Identification of University of Nigeria synopsis structure requirements (Introduction, Methodology and Results). Determining the content of each sub-unit of the synopsis. Steps in writing of synopsis from the dissertation/Thesis document. Structural and language issues. Common errors in synopsis writing and strategies for avoiding them. The roles of the student and the supervisor in the production of a synopsis. Writing of mock synopsis. All registered Ph.D students must attend a solution based interactive workshop to be organized by the school of Postgraduate Studies for a practical demonstration and application of the knowledge acquired from the course, conducted by selected experts.

FVM 890 Thesis [24 units]

Doctor of Philosophy research project in the student's area of study, under the guidance of an approved supervisor. The study must be original and the topic comprehensively researched. The output should contribute significantly to the existing body of knowledge in the area of study. The write-up (thesis) shall be examined by an External Examiner.