

DEPARTMENT OF VETERINARY OBSTETRICS AND REPRODUCTIVE DISEASES
MASTER OF SCIENCE (M.Sc) AND DOCTOR OF PHILOSOPHY (Ph.D) DEGREE
PROGRAMMES

1. PHILOSOPHY

The Master of Science (M.Sc) and Doctor of Philosophy (Ph.D) degree programmes of the Department of Veterinary Obstetrics and Reproductive Diseases are designed to give the students comprehensive knowledge in a specialized area of veterinary reproduction, with emphasis on Andrology and Artificial Insemination, Veterinary Gynaecology, Veterinary Obstetrics and Reproductive Biotechnology. Reproduction is a critical component of animal production, and reproductive diseases are a major concern in Veterinary Medicine. Hence the need to further train Doctor of Veterinary Medicine (DVM) holders in specialized obstetrical science and reproductive health problems of animals. This shall enable the graduates to contribute significantly to specialized animal health care delivery, research in the area of obstetrics and animal reproduction and reproductive health management for the overall increase in animal production.

2. OBJECTIVES

The postgraduate programmes of the Department of Veterinary Obstetrics and Reproductive Diseases lead to the award of M.Sc and Ph.D degrees in Veterinary Obstetrics and Animal Reproduction (Theriogeniology). The programmes provide students with knowledge of the basics of specialized obstetrics and animal reproductive health science, and recent advances in obstetric practices and animal reproduction procedures such as pregnancy diagnosis, artificial insemination, reproductive biotechnology, embryo transfer and semen collection, evaluation and preservation, and general assisted reproductive techniques.

3. SCOPES

Reproduction is a critical component of animal production, and reproductive diseases are a major concern in Veterinary Medicine. Hence the need to further train Doctor of Veterinary Medicine (DVM) holders in specialized obstetrical science and reproductive health problems of animals. The programme provides students with knowledge of the basics of specialized areas like Veterinary Obstetrics, Veterinary Gynaecology, Andrology and Artificial Insemination. Hence, in-depth research in obstetrics and animal reproductive health science, and recent advances in obstetric practices and animal reproduction procedures such as pregnancy diagnosis, artificial insemination, reproductive biotechnology, embryo transfer and semen collection, evaluation and preservation, and general assisted reproductive techniques are available windows for knowledge acquisition for candidates wishing to pursue M.Sc and Ph.D degrees in the department.

4. ADMISSION REQUIREMENTS

A. M.Sc Degree Programme

- (a). The candidate must possess a good Doctor of Veterinary Medicine (DVM) degree or its equivalent from a recognized Veterinary Council of Nigeria-accredited/approved University.
- (b). The candidate must be fully registered with the Veterinary Council of Nigeria as a Veterinary Surgeon.

B. Ph.D Degree Programme

- (a). The candidate must possess a good Doctor of Veterinary Medicine (DVM) degree or its equivalent from a recognized Veterinary Council of Nigeria-accredited/approved University.
- (b). In addition to (a) above, the candidate must possess a Masters degree (M. Sc) in Veterinary Reproduction from a recognized University, and must have obtained a cumulative grade point average of at least 3.5 on a 5 point scale or 3.0 on a 4 point scale in the Masters degree programme.

5. AREAS OF SPECIALIZATION

The areas of specialization for postgraduate studies in the Department of Veterinary Obstetrics and Reproductive Diseases include:

- i. Andrology
- ii. Gynaecology
- iii. Obstetrics
- iv. Reproductive Biotechnology

6. DURATION OF PROGRAMMES

A. Duration of Study for M.Sc Degree Programme

- Full time - a minimum of 3 semesters and a maximum of 5 semesters
- Part time - a minimum of 5 semesters and a maximum of 8 semesters

B. Duration Of Study for Ph.D Degree Programme

- Full time - a minimum of 6 semesters and a maximum of 10 semesters
- Part time - a minimum of 8 semesters and a maximum of 12 semesters

7. REQUIREMENTS FOR GRADUATION

The M.Sc. degree programme is carried out by coursework and project report mode, while the Ph.D. programme is prosecuted by comprehensive research to be embodied in a thesis. Candidates shall further be required to present seminars on their research project and orally defend their project report (M.Sc) or thesis (Ph.D) before an external examiner as condition for graduation.

A. M.Sc Programme

- i. The minimum credit units shall be 30 units distributed as follows:
- | | |
|--|---------------------------|
| - Project Report | - 6 units minimum |
| - Faculty Courses | - 8 units minimum |
| - Departmental Courses | - 16 units minimum |
| - Project courses (including workshop) | - 3 units minimum |
| Total | - 33 units minimum |
- ii. All M.Sc students are expected to register and take five compulsory faculty-based courses with a total credit unit load of 14. Other departmental courses as recommended for the student by the Supervisor / Department based on the student's area of specialization shall constitute a minimum of 16 units in addition to Postgraduate School based course PGC 601 (3 units) to make up the 33 credit units minimum load required for graduation.
- iii. 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 sent to an external examiner nominated by the department and appointed by Senate for that purpose.

B. Ph.D. Programme

- i. 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:
- | | |
|-----------------|-----------------|
| Faculty Courses | 6 units |
| PGC 701 | 3 units |
| Thesis | 24 units |
| Total | 33 units |
- ii. Every Ph.D. candidate must submit a thesis on a chosen and approved topic, supervised by a member or members of staff whose qualifications are not below the Ph.D, and who are not lower than Senior Lecturer in rank. The supervisors must be approved by the Senate of the University.
- iii. The Ph.D. thesis must be defended before an external examiner duly nominated for that purpose and appointed by the Senate.

8. LIST OF APPROVED SUPERVISORS

I. Professors

1. C. N. Uchendu, DVM, M.Sc (Nigeria), M.Phil (Hong Kong), PhD (Nigeria) – Reproductive Physiology.
2. J. I. Ihedioha, DVM, M.Sc, Ph.D (Nigeria) Clinical Pathology.
3. R. I. Obidike, DVM, M.Sc, Ph.D (Nigeria) – Reproductive Physiology.

II. Senior Lecturer

1. I. S. Ochiogu, DVM, M.Sc, Ph.D (Nigeria) – Veterinary Reproduction.
2. C. F. Oguejiofor, DVM, MSc (Nigeria), PhD (London) – Veterinary Reproduction.

9. JOB OPPORTUNITIES

Successful completion of the postgraduate study in the Department prepares the graduate for academic and research careers in tertiary institutions, research institutes, specialist and consultancy services in the Animal Health Divisions of the Federal and State Ministries of Agriculture, Veterinary Medical Centres, Clinics and Hospitals, private and public livestock industries and law enforcement agencies.

10. STRESS AREAS AND CODES

STRESS AREAS	CODES
Foundational Courses	0
Endocrinology and Immuno-reproduction	2
Andrology and Reproductive Physiology	3
Obstetrics, Lactation and Udder Health	4
Infertility, Nutrition and Reproduction	5
Infertility in Equine and Companion Animals	6
Laboratory, Zoo and Wild Animal Reproduction and Reproductive Biotechnology	7
Reproductive Health Care	8
Project	9

11. COURSE CODES, TITLES AND UNITS

A. MSc Programme

I. Compulsory Faculty-Based Courses for M.Sc Degree Programme.

First Semester

<u>Course No.</u>	<u>Title</u>	<u>Units</u>
FVM 701	Research Methods and Scientific Writing	3

Second Semester

<u>Course No.</u>	<u>Title</u>	<u>Units</u>
FVM 702	Biometrics and Computer Applications	3
FVM 796	Research Project Final Seminar	2
FVM 790	Research Project	6
	Total	14

II. Departmental Courses

First Semester

<u>Course No.</u>	<u>Title</u>	<u>Units</u>
VOR 731	Advanced Andrology	2
VOR 737	Advanced Reproductive Physiology	2
VOR 727	Endocrinology of Reproduction	2
VOR 741	Advanced Obstetrics	2
VOR 751	Female Infertility in Food Animals	2
VOR 761	Female Infertility in Equine and Companion Animals	2
VOR 753	Nutrition and Reproduction	2
	Total	14

Second Semester

<u>Course No.</u>	<u>Title</u>	<u>Units</u>
VOR 704	Advances in Diagnostic Techniques in Reproduction	2
VOR 722	Immuno-reproduction	2
VOR 732	Artificial Insemination	2
VOR 742	Lactation and Udder Health Management	2
VOR 772	Reproduction in Laboratory, Zoo and Wild Animals	2
VOR 774	Reproductive Biotechnology	2
VOR 782	Bovine Reproductive Health Care Delivery Programme	2
	Total	14

B. Minimum Credit Units Required for Ph.D Degree Programme

All PhD students must register and take the following faculty-based courses totaling 30 credit units. This is in addition to Postgraduate School-based Course – PGC 701 (3units).

<u>Course No.</u>	<u>Title</u>	<u>Units</u>
PGC 701	Synopsis and Grant Writing	3
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
FVM 890	Thesis	24
	Total	33

12. COURSE DESCRIPTION

A. Course Descriptions for M.Sc Degree 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. Electronic 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.

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 problems, literature, literature review, Design, Data collection, analysis and interpretation, Conclusions. Study of various research designs, Historical, Case studies, Surveys, Descriptive, Cross sectional, Experimental etc. Analysis, surveys and synthesis of conceptual and philosophical foundations of different disciplines. Identification of research problems and development of research questions and or 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 ICT tools relevant in every discipline for data gathering, analysis and result presentation. Essentials of spreadsheets, internet technology, and internet research 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 courses conducted by selected experts.

Departmental Courses

VOR 754 Advanced Andrology [2 units]

Causes of male infertility. Semen examination. Breeding soundness examination. Diagnosis and management of male infertility in farm and companion animals.

VOR 737 Reproductive Physiology [2 units]

Biology of sex. Recent advances in research in mammalian reproduction. Current methods for improving livestock reproduction.

VOR 727 Endocrinology of Reproduction [2 units]

Overview of the endocrine system and hormones involved in reproduction. Control of secretion of hormones involved in reproduction. Effects of excesses and /or deficiencies in the secretion of the hormones. Hormonal imbalances and their effects on reproduction. Use of hormones in modulating reproduction.

VOR 772 Reproduction in Laboratory, Zoo and Wild Animals [2 units]

Patterns of reproduction in some laboratory animals, wild ungulates and non-human primates. Infectious and non-infectious diseases affecting reproduction in non-human primates.

VOR 774 Reproductive Biotechnology [2 units]

Oestrous cycle, oestrus detection, synchronization and super-ovulation. Recovery of embryo. Evaluation and storage of embryos. Embryo splitting and cloning. Identification of donor and recipient. Transfer of embryo into recipient. Monitoring and management of recipient. Practical demonstration classes using small ruminants.

VOR 782 Bovine Reproductive Health Care Delivery Programme [2 units]

Health management of peri-parturient cow and calf. Health management of bulls. Reproductive management of bulls. Reproductive management of large dairy and beef herds. Cow reproductive health indices and their uses. Records essential for reproductive health programmes and its analysis.

B. Course Descriptions for Ph.D Degree 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 type and nature of grant writing; mining of grant application calls on the internet. Determining appropriate strategy for each grant application. Study of various grant application structures and content 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, Results). Determining the content of each sub-unit of the synopsis. Steps in writing of the 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.