



PROSPECTUS

Postgraduate Studies

2012-2013

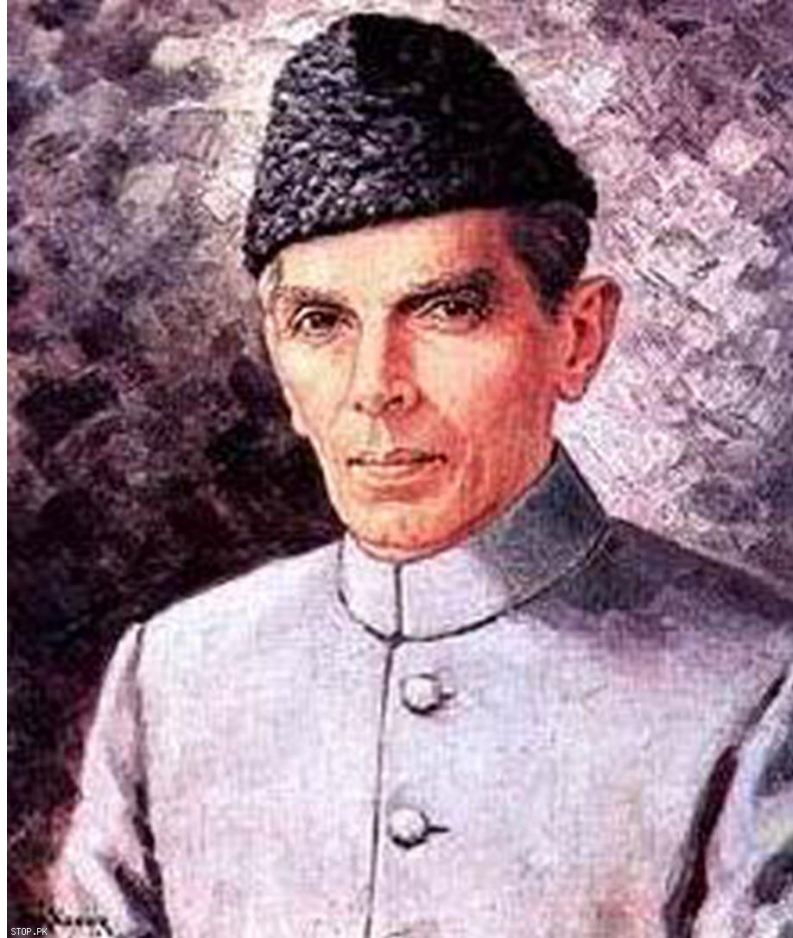
www.uvas.edu.pk



UNIVERSITY OF VETERINARY AND ANIMAL SCIENCES, LAHORE



**"In the name of God, most Gracious,
most Compassionate".**



Quaid-e-Azam
MUHAMMAD ALI JINNAH
Founder of Pakistan



MAKHDOOM AHMED MAHMOOD
CHANCELLOR/GOVERNOR OF THE PUNJAB

UNIVERSITY OF VETERINARY AND ANIMAL SCIENCES, LAHORE-
PAKISTAN

DISCLAIMER

This prospectus is informational and should not be taken as binding on the University. Each aspect of the educational set up such as admission procedure, examination criteria, rules and regulations for discipline, requires continuous review by the competent authorities. The University, therefore, reserves the right to change any rule/rules and regulations applicable to the students whenever it is deemed appropriate or necessary.

Inquiries concerning admission should be addressed to

Prof. Dr. Mansur ud Din Ahmad

Director ORIC

University of Veterinary and Animal Sciences, Lahore.

Telephone: +92-042-99212865, +92-42-99211374 (Ext: 151, 152 155)



**COMPLETE INFORMATION ON PROCEDURES, RULES AND
REGULATIONS IS SET OUT IN THE ORDINANCES, STATUTES,
REGULATIONS, POLICIES AND PROCEDURES OF THE
UNIVERSITY. COPIES ARE AVAILABLE ON REQUEST FROM THE
UNIVERSITY.**

CONTENTS

Historical perspectives of UVAS	7
Message from the Vice Chancellor	8
Message from the Director Advanced Studies	9
Directorate of Advanced Studies	10
Organizational Chart	13
Rules and Regulations for Admissions	14-17
Guideline for Postgraduate Students	18-20
General Instructions for Postgraduate Students	21-22
Course Work (Sample)	23
Guideline for Synopsis Writing (Sample)	25-28
Guideline for Thesis Writing (Sample)	29-35
HEC Approved Supervisors	38
University Faculties /Institutes	39
➤ Faculty of Veterinary Science	40
• Department of Clinical Medicine & Surgery	41-49
○ Pet Centre	
○ Strengthening of Veterinary Clinical Services	
• Department of Microbiology	49- 54
• Department of Parasitology	55-57
• Department of Pathology	58-64
• Department of Epidemiology & Public Health	65-71
• Department of Theriogenology	72-75
➤ Faculty of Animal Production & Technology	76
• Department of Animal Nutrition	77-81
• Department of Livestock Production	82- 87
• Department of Poultry Production	88-91
• Department of Dairy Technology	92-96
➤ Faculty of Bio-Sciences	97
• Department of Pharmacology & Toxicology	98-100
• Department of Physiology	101-103
• Department of Anatomy & Histology	104-106
• Department of Food Sciences & Human Nutrition	107-110

➤ Faculty of Fisheries & Wildlife	111
• Department of Fishers & Aquaculture	112-114
• Department of Wildlife & Ecology	114-118
➤ Faculty of Life Sciences Business Management	-
• Department of Livestock Economics and Business	118-119
• Department of Statistics and Computer Sciences	120
➤ Institute of Biochemistry & Biotechnology	121
• Discipline of Molecular Biology & Biotechnology	121-127
• Discipline of Biochemistry	128
• Discipline of Forensic Sciences	135
➤ Institute of Pharmaceutical Sciences	135-141
• Discipline of Pharmaceutics	142-145
➤ University Diagnostic Lab. (UDL)	146-149
➤ WTO-Quality Control Laboratory	150
➤ University Library	156
➤ University Hostels	157
➤ Directorate of Sports	159
➤ University Mosque	160
➤ Information Technology (IT) Center	162
➤ Application Form	

HISTORICAL PERSPECTIVES

The University of Veterinary & Animal Sciences, Lahore is one of the oldest Veterinary Institutions in Asia. Since its inception in 1882, the staff of this institution has worked enthusiastically and successfully to conduct a wide range of programs that have effectively catered the educational and training needs in the field of veterinary and animal sciences. By now it has emerged as a well-reputed center of teaching veterinary and animal science education in Asia.

This institution started a Veterinary School in 1882 and was raised to the status of Punjab Veterinary College by the end of nineteenth century. Its present buildings were completed in 1921. In 1942, the College was affiliated with Punjab University, Lahore. In 1971, the College was integrated with University of Agriculture, Faisalabad. In 2002, the College was upgraded to the status of a University and named as University of Veterinary and Animal Sciences. It was an obvious testimony of the fact that Government is committed to achieve the objective of institutional arrangement for further research, human resource development and poverty alleviation.



MESSAGE FROM THE VICE CHANCELLOR

The Universities are the hub of learning and advancement, knowledge generation, dissemination and scholarly education of younger generation. Punjab Veterinary School was established in 1882 was raised to the level of the college in 1905 and upgraded to the University of Veterinary & Animal Sciences (UVAS) in 2002. It is one of the oldest Veterinary Institution in Asia. UVAS is rapidly growing to develop human resources for food security & safety. Until 2006 the university was only offering a Doctor of Veterinary Medicine (DVM) 5 years program to train graduate in health and animal husbandry. Realizing that UVAS has a great potential that can be extensively utilized in the national interest and consequent to extensive consultation with the stake holders, academic initiatives were undertaken, whereby a number of graduate degree programs increased from 1 to 7 postgraduate degrees from 12 disciplines to 23 and the student's enrolment from 550 to 678 . These initiatives were possible with the support of Higher Education Commission (HEC) of Pakistan and Government of the Punjab.



The role of Veterinarian as trained biologist is recognized by their contributions in multiple scientific disciplines relevant to WTO food safety & Human Health. A highly motivated faculty members are presently our strength; one third of these are Ph.D degree holders. A tremendous achievement in problem solving research is reflected by HEC ranking of UVAS at number 12 out of 82 national Universities.

I am delighted that you are considering UVAS, Lahore as an option for higher studies and research. The role and contribution of this institution in imparting quality education and conducting high standard research in the fields of Livestock, Poultry, Fisheries, Wild Life, Pharmaceuticals and Biological Sciences in general is now well recognized nationally and internationally. It has a rich legacy of producing scholars and professionals who are serving all over the world in teaching, administrative, research and services-based organizations.

I welcome you as a postgraduate student in UVAS. Programs launched by this University require hard work, commitment and require you to stay on the campus and at your experimental stations for long working hours. The University makes all arrangements to provide a conducive environment for study and research. As you have to take up responsibility in the society at a later stage as a scientific leader of the nation, you need to be well prepared for it. I assure you that if you work honestly and devotedly to improve your knowledge and professional skills, the University faculty shall leave no stone unturned towards accomplishment of your postgraduate studies and research in the most useful manner. I wish you a very fruitful stay at UVAS during your postgraduate studies with the hope that you will rise as a distinct star in the realm of your profession.

Prof. Dr. Tallat Naseer Pasha
Vice Chancellor

Message from the Director, ORIC

Directorate of Advanced Studies & Research came into existence along with the University in July, 2002. Directorate of Advanced Studies and Directorate of Research work together since the upgradation of the College of Veterinary Sciences into the University of Veterinary & Animal Sciences, Lahore. In March 2007 Directorate of Advanced Studies became independent and making progress with fully sprit.



Higher Education is imperative to the development of a nation and the Universities are considered to be the main source of higher education, research and human resources development. Consequently, skilled man-power is produced to work in the industrial and other technological sectors. The postgraduate scholars are expected to produce leadership qualities in themselves and practice higher ethical values like honesty, truthfulness, contentment and hence develop a balanced personality in terms of their mental and physical faculties.

At the same time, I would like to emphasize that as a postgraduate, students should aim to become and experts in their field of study, so that they could serve the nation in a befitting manner. They are also expected to develop a holistic approach towards scientific solutions to the problems of the Animal Sector and become the scientific leaders of the nation.

This University has awarded 500 M.Phil degrees and 41 Ph.D degrees in different disciplines since 2002. Currently 480 M.Phil and 198 Ph.D students are enrolled in different disciplines.

I wish you all the best for your stay at the University and ever after.

Prof. Dr. Mansur ud Din Ahmad
Director

DIRECTORATE OF ORIC

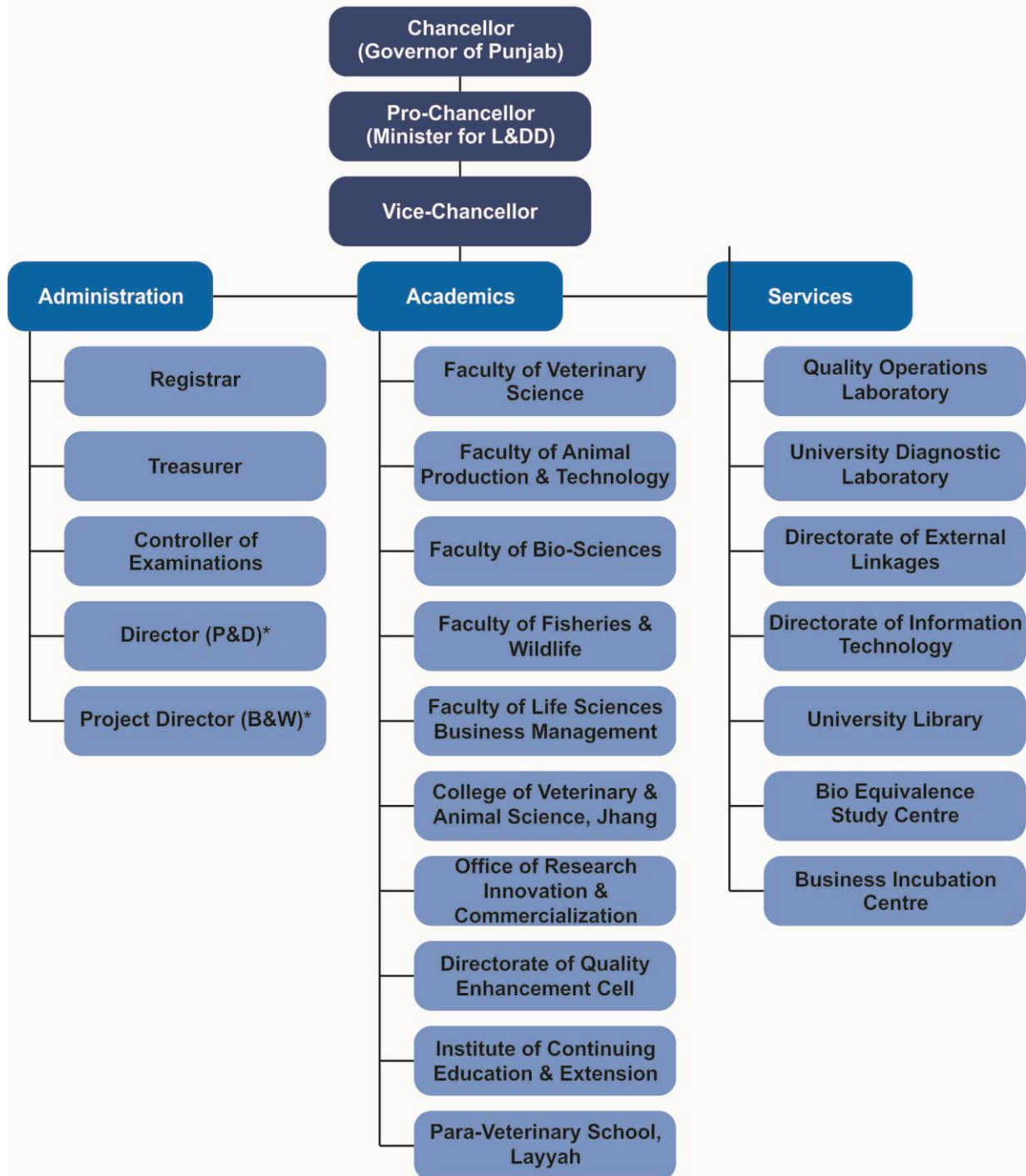
The directorate of research of UVAS is working under the umbrella of office of the research innovation and commercialization (ORIC). It is launched by HEC on 12 February 2010 for strengthening research and the process of knowledge creation. The mission of the Office for Research is to develop, expand, enhance and manage the university's research programs and to link research activities directly to the educational, social and economic priorities of the University and its broader community. The office is also responsible for assuring that the quality of research reflects the highest international standards and advances the stature of the university among the world's best research institutions. In pursuit of this mission the Office of Research has the responsibility of guaranteeing that all research programs and policies reflect the core values of academic freedom, professional integrity and ethical conduct and full compliance with all policies, legal requirements and operational standards of the university.



STAFF MEMBERS

- 1. Prof. Dr. Mansur-U-Din Ahmad**
Director
- 2. Dr. Syed Saleem Ahmad**
Deputy Director /Assistant Professor
- 3. Aamna Zia**
Assistant Manager Research Operation, ORIC
- 4. Sakhra Mahmood**
Assistant Director Advance Studies (On study leave)
- 5. Marriyam Sardar**
Assistant Director Research
- 6. Muhammad. Arif**
Admin Officer
- 7. Ghulam Kibria**
Assistant
- 8. Tahir Mehmood**
Data Entry Operator
- 9. Rehman Nayyer**
Senior Clerk
- 10. Waqar Ahmad**
Senior Clerk
- 11. Ayesha Nazir**
Junior Clerk
- 12. Kalsoom Nawaz**
App. Clerk against the post of Junior Clerk
- 13. Sardar Ali**
Qasid
- 14. Shahid Mahmood**
Naib Qasid

ORGANIZATIONAL CHART



CAMPUSES

City
Campus
Lahore

Ravi
Campus
Pattoki

CVAS
Jhang

Para
Veterinary
School,
Layyah

ART
center
Lahore

Affiliated Institution of UVAS

LSTC
Okara

LSTC
Sheikhupura

BLPRI
Attock

PRI
Rawalpindi

ART = Avian Research & Training Centre
CVAS = College of Veterinary & Animal Sciences, Jhang
LSTC = Livestock Services Training Centre
BLPRI = Barani Livestock Production and Research Institute
PRI = Poultry Research Institute

General Rules and Regulations for Admissions

The following postgraduate degree programs are being offered.

- A. M.Sc. (Wetland Management)
- B. M.Phil
- C. Ph.D

A. M.Sc. (Wetland Management)

Duration for M. Sc (Wetland Management)

- (i). The duration of the course for the Degree of Master of Sciences (M.Sc.) shall be four semesters.
- (ii). The medium of instruction and examination shall be English.

Eligibility

Minimum 2nd Div. with 50% marks according to annual system or minimum CGPA 2.50/4.00 according to the semester system from a recognized University in B.Sc with Zoology, Botany etc and B.Sc. Forestry.

B. M.Phil

Duration for M.Phil

- (iii). The duration of the course for the Degree of Master of Philosophy (M.Phil) in full residence shall not be less than four semesters and more than six semesters for whole time students and not less than six semesters for the University employees admitted as part time students.
- (iv). The durations of the course for the Degree of Master of Philosophy (M.Phil) for part time students shall not be less than six semesters and more than ten semesters.
- (v). The medium of instruction and examination shall be English.

	Min	Max
Full Time Student	4	6
Part Time Student	6	10

Eligibility

16 years of schooling or 4 years education (130 credit hours) after HSSC /F.A /F.Sc./Grade 12 equivalents. Minimum 2nd Div. with 50% marks according to annual system or minimum

CGPA 2.50/4.00 according to the semester system from a recognized University in related field of study and only registered candidates from concerned council like PVMC, PMDC etc. GAT (General) Test by NTS: Candidates will have to clear GAT (General) Test by NTS before the last date of submission of applications.

Graduate Assessment Test (GAT) by NTS (50% cumulative score) is mandatory for admission to M.Phil.

M.Phil degree program is being offered in the disciplines of :

Lahore Campus Pharmacology & Toxicology, Physiology, Anatomy & Histology, Biochemistry, Molecular Biology and Biotechnology, Bioinformatics, Forensic Sciences, Pharmaceutics, Microbiology, Pathology, Parasitology, Theriogenology, Clinical Medicine, Surgery, Epidemiology & Public Health and Food Sciences & Human Nutrition.

Ravi Campus Pattoki Animal Nutrition, Poultry Production, Livestock Management, Animal Breeding & Genetics, Dairy Technology Fisheries & Aquaculture and Wildlife & Ecology.

C. Ph.D

Duration for Ph.D.

The duration of the course for the Degree of Doctor of Philosophy, in full residence shall not be less than six semesters and more than ten semesters for whole-time students. In case of University employees admitted as part time students, the duration shall not be less than ten semesters and more than fourteen semesters.

	Min	Max
Full Time Student	6	10
Part Time Student	10	14

Eligibility

The candidates must have Master's degree (M.Sc. Hons./M.Phil) in related field of study with minimum of 1st Division according to annual system or not less than CGPA 3.00/4.00 according to semester system from HEC recognized universities and only registered candidates from concerned council like PVMC, PMDC etc. **Candidates will have to clear GRE subject test which will be arranged by university. Qualifying score 70% or GAT subject test by NTS in all disciplines qualification score 60% except these two subjects (Molecular Biology & Biotechnology and**

Biochemistry) requiring International GRE test. Ph.D. degree program is being offered in the disciplines of:

Lahore Campus: Pharmacology & Toxicology, Physiology, Anatomy & Histology, Biochemistry, Molecular Biology and Biotechnology, Bioinformatics, Microbiology, Pathology, Parasitology, Theriogenology, Clinical Medicine, Epidemiology Public Health and Food Sciences & Human Nutrition.

Ravi Campus Pattoki: Animal Nutrition, Livestock Management, Animal Breeding & Genetics, Poultry Production, Dairy Technology, Wildlife & Ecology and Fisheries & Aquaculture,.

1. The employees of the Government/other agencies nominated for the degree of Doctor of Philosophy at this University shall have to take leave to pursue studies as a regular student, failing which he/she shall not be admitted.
2. The supervisors of Ph.D. students shall submit a report with regard to each Ph.D. student showing general progress particularly in research. Such report shall be submitted on prescribed form after each semester to the Advanced Studies and Research Board through the Chairman of the Department/Dean/Director concerned.

(Explanation: In case their progress is not satisfactory, they will be called during next semester to justify for the delay. In case their explanation, in the opinion of the Advanced Studies and Research Board is not found satisfactory, appropriate orders including cancellation of admission shall be passed by the Board).

3. The medium of instruction and examination shall be English.

There will also be a Supplementary Semester of 8 to 10 weeks each year as part of an academic year which shall be optional. Students, who desire to take up deficiency courses as approved in their course work programs, failed courses and the courses in which they are allowed to improve 'C' grade under the rules, may enroll during this session. It shall not count towards residential requirements

Nominations for Admission to Postgraduate Degree Programs

The candidates/nominees will have to apply through proper channel. Nominations received after the due dates will not be entertained. Nominees will also have to qualify the GAT (General) for M.Phil and GRE (Subject) test for Ph.D

Submission of Application

Prospectus can be downloaded from the university website www.uvas.edu.pk, Application form can be submitted online through the UVAS website and challan form of an amount of Rs. 2000/- per form and Rs. 500 for additional discipline will be generated with the application form and amount can be deposited at any branch of Habib Bank Ltd, in Account No. 01277900351801 or in the form of Bank Draft in the name of Treasurer, UVAS, Lahore.

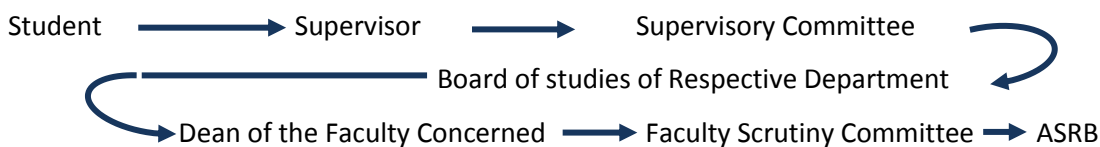
Applications complete in all respect should reach in the office of the Office of Advanced Studies UVAS, Lahore within the prescribed period of time as notified by the University. Incomplete application or those received after due date, shall not be entertained and be rejected without any notice.

Guideline for Postgraduate Students

A. GUIDELINE FOR M.PHIL STUDENT

1. Minimum residential requirement = 04 Semesters
(Full time student)
2. Maximum residential requirement = 06 Semesters
(full time student)
(DVM 4 years) students taking admission to Faculty of Animal Production & Technology will have to study deficiency courses offered by the concerned Department.
3. To complete enrolment formalities in each semester, the student will submit dues & enrolment form complete in all respect
4. Ordinarily a full time student shall not be enrolled for more than 15 and less than 10 credits in a semester except for the last semester.
5. At the end of 1st semester, a student must obtain a GPA of 2.00. However, in case of GPA 1.75 or above but less than 2.00, he will be promoted to 2nd semester, but only once and will be kept on probation.
6. At the end of 2nd semester, a student must obtain a CGPA of 2.00 and must also pass at least 50% of the courses enrolled by him.
7. At the end of 3rd and onward semesters, CGPA of a student should not be less than 2.00; otherwise he/she will cease to be on the roll.
8. Seminar will be compulsory for each student, but special problem is not compulsory.
9. For the award of the degree, a student must obtain CGPA at least 2.50.
10. Submission of Course Work Program and constitution of their Supervisory Committee is due at the end of 2nd semester
11. Submission of Synopsis to the Board of Studies is due at the end of 3rd semester

The route of Synopsis approval will be as under:



- (i). If Faculty Scrutiny Committee does not suggest any change, the Dean concerned will forward the Synopsis to Director, Advanced Studies (DAS) for approval by the Advanced Studies and Research Board (ASRB).

If Faculty Scrutiny Committee suggests any change, the Dean will send the Synopsis back to the Chairman of concerned Department to ask the student to make suggested changes in the Synopsis. After making the changes, Chairman of the Department will send the Synopsis to Chairman, Faculty Scrutiny Committee for onward submission to DAS for approval from ASRB.

12. Discontinuation of Semester = Student can discontinue the Semester only once but only after first semester
13. Submission of Semifinal/Final Thesis = During the 4th (regular) Semester.
14. Thesis Examination (Viva Voce) = After fulfilling all academic and administrative requirements.

D. GUIDELINE FOR M. Phil LEADING TO Ph. D STUDENTS

1. The minimum duration for completion of M. Phil leading to Ph. D degree program will be 4 years (8 semesters) and maximum 5 years (10 semesters). The period shall be counted from the date of admission.
2. Total credit hours of the program will be 48. In the first three semesters a student will have to undertake course work equivalent to 30 Credit hours.
 - i) If student desires to undertake M. Phil research or is unable to maintain his/her CGPA 3.00 or above, he/she shall enroll 10 credit hours research in the fourth semester and will become eligible for M. Phil. Degree.
 - ii) The student who has maintained CGPA 3.00 or above shall undertake additional course work equivalent to 18 credit hours and conduct his/her Ph.D. Research. The detail of these courses are as under:-

ADDITIONAL COURSE WORK

Major courses	=	11 Credit hours
Seminar	=	1 Credit hour
Minor Courses	=	6 Credit hours
Total	=	18 Credit hours
Advanced Statistics	=	3 Credit hours
(Compulsory Deficiency)		

C. GUIDELINE FOR PH.D. SCHOLARS

1. Duration of the course
 - a) For regular students. Not less than 6 and not more than 10 semesters.
 - b) Part time student Not less than 10 semesters and not more than 14 semesters.
2. To complete enrolment formalities in each semester, the student will submit dues and enrolment form complete in all respect.
3. Ordinarily a whole time student shall not be enrolled for more than 15 and less than 10 credits in a semester except in the last semester.
4. At the end of 1st semester a student must attain a GPA of 3.00. However in case of a GPA of 2.5 or above but less than 3.00, he will be given a warning to improve his/her GPA/CGPA and if he/she fails to attain a CGPA of 3.00 in the next semester, his/her admission shall stand cancelled.
5. Two Seminars and a Special Problem will be compulsory for each student
6. Submission of Course Work Program will be due at the end of 1st. Semester

COMPREHENSIVE EXAM.

A student admitted to the course shall take a Comprehensive Examination within six weeks of the next semester after he has successfully completed the approved course work program.

Detail: Comprehensive Examinations shall be arranged within 6 weeks of the termination of each regular semester. A student will have to apply for the said exam on the prescribed form at least two months before the examination. If a student does not apply within the specified period or does not appear in the examination, he/she will be deemed to have availed one chance and failed to qualify in the first attempt.

To pass the Comprehensive Examination, a student must obtain not less than grade B in the written and the oral parts, separately.

A student shall not be eligible to sit in the oral part, unless he has qualified in the written part of the Examination.

(i) If a student fails to qualify either in the written or oral part he/she shall be eligible to offer himself/herself again in the part in which he failed, in the subsequent semester/next semester but only once and also within one year of the declaration of the results of the examination.

(ii) If a student is unable to qualify either written or oral part of the Comprehensive Examination twice, he/she shall cease to be on the University rolls. He/she shall not be granted admission in any Ph.D degree program in the University thereafter.

A student who has passed the comprehensive examination shall be deemed to have become a candidate for admission to Ph.D degree.

Submission of Synopsis to Board of Studies	=	At the end of 3 rd . semester
Discontinuation of Semester	=	Can discontinue only once during Ph.D Program but after 2 nd semester.

SUBMISSION OF SEMI FINAL/FINAL THESIS:

A candidate who has passed the Comprehensive Examinations shall be allowed to submit his/her thesis, but before submission he/she will have to defend his/her thesis, at University level. This presentation shall be evaluated by the Supervisory Committee and if found acceptable, the final submission may be allowed. Thesis will be sent abroad for evaluation by two external examiners from technologically advanced countries.

GENERAL INSTRUCTIONS FOR POSTGRADUATE STUDENTS

1. All postgraduate students after enrolment must get their respective student's copy of the enrolment form from the office of Directorate of Advanced Studies. Thereafter, the said copy is to be shown to the concerned teacher (s) offering the course (s) in order to include their names in the attendance register being maintained by the teacher.
2. No course shall be conducted unless there are at least four students enrolled for that course. In special cases, however, if the number of students is less than four, permission of the Vice Chancellor shall have to be obtained for conducting that course. The Board decided that approval of Vice Chancellor for offering a course to a class of less than four students must be obtained within one month of the commencement of that semester and no request will be entertained after expiry of the date. The above condition, however, does not apply to the Supplementary Semester where teachers are not required to ask for the permission of the Vice Chancellor.
3. All students are required to submit their Course Work Program during 1st Semester and Synopsis during 3rd Semester.
4. A course can be repeated three times, at the most. First repetition will be on student's will. For 2nd repetition prior permission of Director Advanced Studies is essential and for 3rd repetition, permission of the Advanced Studies and Research Board will have to be sought and the applicant will have to justify the repetitions.
5. An approved course, not offered for four Semesters consecutively, shall stand deleted from the list of approved courses of the department concerned.
6. If a teacher is not available for guidance for most of the time he should be changed by the Dean of the Faculty on a request from the student supported by the Chairman of the Department concerned.
7. The teachers concerned should try to organize the Ph.D. student's workload so that they are able to finish their research work within the minimum limit, possibly in three years.
8. Only academically qualified and competent teachers by virtue of their experience should be allowed to supervise the work of Ph.D. students. Normally the major supervisor of a Ph.D. student must possess the following qualifications and experience.
 - a. Ph.D. degree in the subject.
 - b. At least 5 years teaching / research experience.
 - c. At least three publications to his credit in an International/National Journal of repute.
 - d. Must have a prior experience of supervising M.Sc (Hons)/ M. Phil student's research.
9. No student will be allowed to conduct research outside the University Campus without prior

permission of the Chairman of the Department and the Dean of the Faculty Concerned.

10. Semi-final thesis should be submitted to Director Advanced Studies duly forwarded by the Chairman of the Department and Dean of the Faculty concerned on or before the schedule date.
11. Compulsory Deficiency course like Statistics and Biochemistry etc. shall not be counted towards minor fields as required under statutes 4(b) relating to the postgraduate students. Accordingly, the total fields in minor will be counted excluding the Compulsory courses.
12. There will be no "D" grade for the deficiency courses and students will be marked A, B, C and F.
13. Director Advanced Studies is empowered to extend the date of final submission of the theses by two weeks for those students who get their semi-final theses approved / scrutinized by the Directorate of Advanced Studies.
14. Enrolment for a minimum of 10 credits in a semester will be strictly adhered to, as provided under rules. Relaxation for enrolling 2 credits less than the limit may be allowed by the Advanced Studies and Research Board in exceptional cases only. The Deans / Director / Chairmen would ensure that the requisite courses are offered by their Faculties / Departments / Sections to avoid hardship to the students.
15. Duration of the question paper for Written Comprehensive Examination would be five hours and the student shall be required to attempt five questions out of seven in each paper.
16. A postgraduate student can avail the facility of discontinuation of studies only once during his study period and that too for one semester only. Moreover, he will have to apply for discontinuation of studies within 30 days from the date of commencement of classes. Any application received after that period shall be outrightly rejected. Moreover, candidates failing to apply for the discontinuation shall be charged Rs.2000/- at the time of enrolment in the forthcoming semester. However, if a student does not apply in that semester his admission will stand cancelled.

Course work (Sample)

UNIVERSITY OF VETERINARY & ANIMAL SCIENCES, LAHORE

Course work program for M. Phil/ Ph.D

DEPARTMENT:

Regd. #

Name of the Student:

Signature of Student _____

Date of Admission:

Supervisory Committee:

- | | | | |
|----|--------|------------------------|-------|
| 1. | (Name) | (Supervisor/ Chairman) | _____ |
| 2. | -do- | (Co-Supervisor if any) | _____ |
| 3. | -do- | (Member) | _____ |
| 4. | -do- | (Member) | _____ |

COURSE WORK SAMPLE

Course #	Title of the course	Minimum Credit hrs. Required	
----------	---------------------	------------------------------	--

		<u>M. Phil</u>	<u>Ph.D</u>
A)	Major Courses	23/24	17
B)	Minor Courses	12/11	08
C)	Deficiency Courses	03	06
D)	Research and Thesis	10	20
		48	51

Dean,
Faculty of-----
UVAS, Lahore.

Chairman,
Department of
UVAS, Lahore

Director
Advanced Studies
UVAS

Course work (Sample)

UNIVERSITY OF VETERINARY & ANIMAL SCIENCES, LAHORE

Course work program for M. Phil Leading to Ph.D

DEPARTMENT:	Regd. # _____
Name of the Student:	Signature of Student _____
Date of Admission:	
Supervisory Committee:	
1. (Name)	(Supervisor/ Chairman) _____
2. -do-	(Co-Supervisor if any) _____
3. -do-	(Member) _____
4. -do-	(Member) _____

COURSE WORK SAMPLE

<u>M.Phil PART</u>	Course #	Title of the Course	Minimum Credit hrs. Required M.Phil
	A)	Major Courses	20
	B)	Minor Courses	10
	C)	Deficiency courses (Biochemistry & Statistics)	06
		Total	36
<u>Ph.D PART</u>	Course #	Title of the Course	Minimum Credit hrs. Required Ph.D
	A)	Major Courses	12
	B)	Minor Courses	06
	C)	Deficiency course (Compulsory Statistics)	03
		Total	21

Dean,
Faculty of
UVAS, Lahore.

Chairman,
Department of
UVAS, Lahore

Director
Advanced Studies
UVAS

GUIDELINE FOR SYNOPSIS WRITING (SAMPLE)
UNIVERSITY OF VETERINARY & ANIMAL SCIENCES, LAHORE

Synopsis of M. Phil./Ph.D
(Subject/Discipline)

TITLE:

(Should be clear and precise)

Date of Admission _____

Date of Initiation _____

Probable research duration _____

(For M.Phil research project the minimum research span is 3 months).

(For Ph.D research project the minimum research span is 9 months).

PERSONNEL:

Name of student _____

Regd. No. _____

Supervisory Committee 1. Supervisor: _____

2. Member: _____

3. Member: _____

RELEVANCE TO RESEARCH PRIORITY

Certificate

The title of the synopsis relates to research priority entitle, “_____” of the Department.

Signature:

(Student)

FORWARDED BY SUPERVISORY COMMITTEE:

1. _____(Supervisor)
2. _____(Member)
3. _____(Member)

In case of Ph.D a Certificate from the Supervisor to the effect that the scholar has presented a seminar to defend his synopsis at University Level should accompany the synopsis document.
Recommended and Forwarded by Chairman Board of Studies of the Department of:_____

(Chairman)

Recommended and Forwarded by Synopsis Scrutiny Committee:

(Chairman)

Reviewed and witnessed by:

(DEAN)

Faculty of _____
University of Veterinary and Animal Sciences, Lahore.

Director Advanced Studies
University of Veterinary
and Animal, Sciences, Lahore

INTRODUCTION

(New page)

- I. Importance of topic.
- II. Present situation at national and international level.
- III. Relevance to national needs and identified research priorities.
- IV. The objectives of the study
- V. What the present study is expected to contribute to the existing scientific knowledge on the subject/ topic.

REVIEW OF LITERATURE

(New page)

- | | |
|----------------------------|-------------------------------|
| No. of reviews for M. Phil | Minimum 15 (synopsis) latest. |
| No. of reviews for Ph.D. | Minimum 25 |

Reviews should be arranged in paragraph style, chronological order and be split up under subheadings in case of Ph.D synopsis.

Only desperately required old reference/ reviews should be added.

MATERIALS & METHODS

(New page)

Experimental design should be clearly mentioned with references.

It should be in a logical order including following information:

- I. Experimental Animals/ Birds (Information about their origin, rearing etc)
- II. Selection criteria – Species/ Age/ Sex/ Health Status
- III. Experimental Design (Sample size, grouping of animals/birds- No. of Groups, Positive and Negative controls, etc.)
- IV. Techniques for collection of samples (e.g. sampling material, mode of transportation preservation, examination and identification etc.)
- V. What statistical model would be applied to present project?

SUMMARY

(New page)

It should include the following:

1. Background
2. Hypothesis
3. Parameter / Methodology
4. Statistical Design
5. Outcome

LITERATURE CITED

(New page)

Please see 'Guidelines for Thesis Writing' to correctly cite literature from journal/ book/ personal communication).



GUIDELINE FOR THESIS WRITING (SAMPLE)

(HARD COVER SAMPLE)

(Title of the thesis should also be written on spine of the thesis. Colour of hard binding for M.Phil will be dark green and for that of Ph.D will be black)

TITLE (FONT 16 IN TWO OR THREE LINES)

**(NAME OF THE STUDENT)
REGISTRATION NO.**



**A THESIS SUBMITTED IN THE PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE**

OF

**MASTER OF PHILOSOPHY/ DOCTOR OF PHILOSOPHY
(FONT 15)**

IN

NAME OF THE DISCIPLINE/ SUBJECT
UNIVERSITY OF VETERINARY AND ANIMAL SCIENCES, LAHORE
(FONT 16)

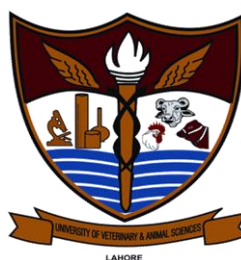
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* YEAR OF SUBMISSION OF FINAL THESIS

TITLE PAGE (TAPE BINDING SAMPLE)

TITLE (FONT 16 IN TWO OR THREE LINES)

**(NAME OF THE STUDENT)
REGISTRATION NO.**



**A THESIS SUBMITTED IN THE PARTIAL FULFILLMENT OF THE REQUIREMENTS
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**UNIVERSITY OF VETERINARY AND ANIMAL SCIENCES, LAHORE
(FONT 16)**

**YEAR*
(FONT 14)**

*** YEAR OF SUBMISSION OF FINAL THESIS**

To,

The Controller of Examinations,
University of Veterinary & Animal Sciences,
Lahore.

We, the Supervisory Committee, certify that the contents and form of the thesis, submitted by _____, have been found satisfactory and recommend that it be processed for the evaluation by the External Examination (s) for award of the Degree.

Chairman _____

Co-Supervisor
(if any) _____

Member _____

Member _____

DEDICATION (NEW PAGE)
(The page of dedication is optional)

ACKNOWLEDGEMENTS (NEW PAGE)
(Brief and relevant)

CONTENTS (NEW PAGE)

DEDICATION (i)
ACKNOWLEDGEMENTS (ii)
LIST OF TABLES (iii)
LIST OF FIGURES (iv)

S. NO.	CHAPTERS	PAGE NO.
1.	INTRODUCTION.....	
2.	REVIEW OF LITERATURE.....	
3.	MATERIALS AND METHODS.....	
4.	RESULTS.....	
5.	DISCUSSION.....	
6.	SUMMARY.....	
7.	LITERATURE CITED	

LIST OF TABLES (NEW PAGES)

<u>TABLE NO.</u>	<u>TITLE</u>	<u>PAGE NO.</u>
1.
2.
3.
4.

<u>LIST OF FIGURES</u>		(NEW PAGES)
<u>TABLE. NO.</u>	<u>TITLE</u>	<u>PAGE NO.</u>
1.
2.
3.
4.

Synopsis / Thesis write up style.

1. In the whole body of thesis / synopsis font Times New Roman, size 12, double line spacing and both right and left justified margins must be used.
2. Page layout should be with Normal Margins (1" Top, Bottom, Right and Left), Size of page should be Letter (8.5" x 11")
3. To reduce the errors, whole document (Microsoft Program) should be typed while using the formatting symbols (¶).
4. Review of Literature should be in paragraph form. Each paragraph should classify and evaluate the themes of the texts that are relevant to your thesis.
5. Only authenticated scientific website should be quoted as a reference.
6. In-text reference: In the body of the document (Introduction, Review of Literature, Materials and Methods and Discussion), refer to authors as follows: Smith and Jones (1992) or Smith and Jones (1990, 1992). If the sentence structure requires that the authors' names be included in parentheses, the proper format is (Smith and Jones 1982; Jones, 1988a, b; Jones et al. 1993). Where there are more than two authors of one article, the first author's name is followed by the abbreviation et al. (Smith et al. 1982). More than one article listed in the same sentence of text must be in chronological order first and alphabetical order for two publications in the same year (Annexure I).
7. In the Literature Cited section, all references cited in the body of the document should be enlisted (Annexure I).

- a. References shall first be listed alphabetically by author(s)' last name(s), and then chronologically.
 - b. The year of publication follows the authors' names. As with text citations, two or more publications by the same author or set of authors in the same year shall be differentiated by adding lowercase letters after the date. The dates for papers with the same first author that would be abbreviated in the text as et al., even though the second and subsequent authors differ, shall also be differentiated by letters.
 - c. All authors' names must appear in the Literature Cited section.
 - d. Journals shall be abbreviated according to the conventional ISO abbreviations given in journals database of the National Library of Medicine (<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=journals>).
One-word titles must be spelled out.
 - e. Inclusive page numbers must be provided.
8. Header should carry heading of the chapter at the right end except 1st page and Footer should carry the page number in the center e.g.

Header

Introduction

Footer

34

9. Page numbering will be started from introduction onward.
10. Heading of all the chapters (INTRODUCTION, MATERIALS AND METHODS etc) should be as per sample shown below with font size CHAPTER (Font 12 Times Romen) and INTRODUCTION (Font 14 Times New Roman).

11.

CHAPTER 1
INTRODUCTION

Annexure I

- Bassett TJ, Zueli KB. 2000. Environmental discourses and the Ivorian Savanna. *Ann Assoc Am Geogr.* 90(1): 67-95.
- Cochran WW, Mouritsen H, Wikelski M. 2004 Apr 16. Migrating songbirds recalibrate their magnetic compass daily from twilight cues. *Science.* 304: 405-408.
- Evans S, Smith J. 2000. Ecotourism in tropical rainforests: an environmental management option for threatened resources? In: Font X, Tribe J, editors. *Forest tourism and recreation: case studies in environmental management.* 4th ed. Wallingford (GB): CABI Publishing. p. 127-142.
- Field IC, Bradshaw CJA, Burton HR, Sumner MD, Hindell MA. 2005. Resource partitioning through oceanic segregation of foraging juvenile southern elephant seals (*Mirounga leonina*). *Oecologia.* 142: 127-133.
- Grossman E. 2006. High tech trash: digital devices, hidden toxics, and human health [Internet]. Washington (DC): Island Press; [cited 2008 Jul 22]. Available from: <http://site.ebrary.com/login.ezproxy.library.ualberta.ca/lib/albertaac/Doc?id=10182341>
- Moore D. 2002. Fungal control of pests. In: Pimental D, editor. *Encyclopedia of pest management.* New York (NY): Marcel Dekker. p. 320-324.
- NCBI Bovine genome resources [Internet]. [date unknown]. Bethesda (MD): National Center for Biotechnology Information [NCBI]; [cited 2004 Dec 22]. Available from: <http://www.ncbi.nlm.nih.gov/genome/guide/cow/>
- Roberts C, Varty B, Lucas V. 2004. *Writing for the biological sciences.* 10th ed. Toronto (ON): Addison-Wesley. p. 73-76.

Sarkar T, Zhao W, Sarkar NH. 1995. Expression of jun oncogene in rodent and human breast tumors. J Biology [Internet]. [cited 2004 Dec 22]; 1(1): [about 8 screens].

Available from: <http://epress.com/w3jbio/vol1/sarkar/sarkar.html>

Scientists close in on source of X-rays in lightning [Internet]. 2008. [Place of publication unknown]: Scienceblog.com; [updated 2008 Jul 16; cited 2008 Jul 29]. Available from: <http://www.scienceblog.com/cms/scientists-close-source-x-rays-lightning-16904.html>

Shakelford RT. 1978. Surgery of the alimentary tract. Philadelphia (PA): W.B. Saunders. Chapter 2, Esophagoscopy; p. 29-40.

Smart IM. 2005. Ecological sampling techniques: species-area relationships and species diversity. BIO 251 Laboratory Handout. Camrose (AB): Augustana Faculty, University of Alberta.

Troyer G. Sensory phantoms: dealing with the loss of a limb [Internet]. 2009. [Place of publication unknown]: Canadian Broadcasting Corporation [updated 2009 Jan 5; cited 2009 Jan 13]. Available from: www.cbc.ca/health/story/2009/01/05/f-troyer-phantompain.html

Wagner FH. 1980. Wildlife of the deserts. New York (NY): H.N. Abrams. 231 p.

World health report 2004: changing history[Internet]. 2004. Geneva (CH): World Health Organization [WHO]; [cited 2008 Jul 22]. 170 p. Available from: http://www.who.int/entity/whr/2004/en/report04_en.pdf

Wykoff WR. 2002. Measuring and modeling surface area of ponderosa pine needles. Can J For Res. 32: 1-8.

Yencho GC, McCord PH, Haynes KG. 2008. Internal heat necrosis of potato - a review. *Am J*

Potato Res [Internet]. [cited 2008 Jul 22]; 85(1): 69-76. Available from:

[http://www.springerlink.com/login.ezproxy.library.ualberta.ca/content/](http://www.springerlink.com/login.ezproxy.library.ualberta.ca/content/915131u45576313l/fulltext.html)

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FACULTY OF VETERINARY SCIENCE

Department of Clinical Medicine & Surgery

1. Prof. Dr. Muhammad Sanwar Khan
2. Dr. Muhammad Ijaz
3. Prof. Dr. Muhammad Arif Khan
4. Dr. Jawaria Ali Khan
5. Dr. Aneela Zameer Durrani
6. Dr. Muhammad Awaiz

Department of Microbiology

1. Prof. Dr. Khushi Muhammad
2. Prof. Dr. Tahir Yaqoob
3. Prof. Dr. Masood Rabbani
4. Dr. Jawad Nazir

Department of Parasitology

1. Prof. Dr. Azhar Maqbool
2. Dr. Muhammad Imran Rashid
3. Dr. Haroon Akbar

Department of Pathology

1. Dr. Muhammad Younas Rana, College of Veterinary and Animal Sciences, Jhang
2. Dr. Asim Aslam
3. Dr. Ashiq Hussain Cheema
4. Dr. Mutti ur Rehman Khan

Department of Epidemiology & Public Health

1. Prof. Dr. Muhammad Athar Khan
2. Dr. M. Hassan Mushtaq
3. Prof. Dr. Masroor ud Din Ahmad

Department of Theriogenology

1. Prof. Dr. Nasim Ahmed
2. Dr. Amjad Riaz
3. Dr. Mian Abdul Sattar

FACULTY OF BIOSCIENCES

Institute of Biochemistry & Biotechnology

1. Prof. Dr. Masroor Ellahi Baber
2. Dr. Ali Raza Awan
3. Dr. Abu Saeed Hashmi
4. Dr. Muhammad Tayyab
5. Dr. Atif Hanif
6. Dr. Asif Nadeem
7. Dr. Muhammad Wasim

Department of Pharmacology & Toxicology

1. Prof. Dr. Muhammad Ashraf
2. Dr. Aqeel Ahmad

Department of Physiology

1. Prof. Dr. Ijaz Ahmad
2. Dr. Imtiaz Rabbani
3. Prof. Dr. Habib ur Rehman

Department of Anatomy & Histology

1. Dr. Hafsa Zaneb

Department of Food Sciences & Human Nutrition

1. Dr. Muhammad Nasir
2. Dr. Sanaulah Iqbal
3. Dr. Naureen Naeem

FACULTY OF ANIMAL PRODUCTION & TECHNOLOGY

Department of Animal Nutrition

1. Prof. Dr. Talat Naseer Pasha
2. Prof. Dr. Anjum Khalique
3. Dr. Saima

Department of Livestock Production

1. Prof. Dr. Muhammad Abdullah
2. Dr. Ahmad Ali
3. Prof. Dr. Khalid Javed
4. Dr. Jalees Bhatti

Department of Poultry Production

1. Prof. Dr. Muhammad Akram
2. Dr. Abdul Waheed Sahota
3. Dr. Athar Mahmood
4. Dr. Farina Malik Khattak

Department of Dairy Technology

1. Dr. Imran Javid

FACULTY OF FISHERIES & WILDLIFE

Department of Fisheries and Aquaculture

1. Prof. Dr. Muhammad Ashraf
2. Dr. Noor Khan
3. Prof. Dr. Muhammad Sharif Mughal
4. Dr. Hamda Azmat

Department of Wildlife and Ecology

1. Dr. Arshad Javid
2. Dr. Khalid Mehmood Anjum

UNIVERSITY FACULTIES / INSTITUTES

A. FACULTY OF VETERINARY SCIENCE

- i. Department of Clinical Medicine & Surgery
- ii. Department of Microbiology
- iii. Department of Parasitology
- iv. Department of Pathology
- v. Department of Epidemiology & Public Health
- vi. Department of Theriogenology

B. FACULTY OF ANIMAL PRODUCTION & TECHNOLOGY

- i. Department of Animal Nutrition
- ii. Department of Dairy Technology
- iii. Department of Livestock Production
- iv. Department of Poultry Production
- v. Department of Meat Technology
- vi. Department of Leather & Fiber Technology

C. FACULTY OF BIO-SCIENCES

- i. Department of Pharmacology & Toxicology
- ii. Department of Anatomy & Histology
- iii. Department of Physiology
- iv. Department of Social Sciences
- v. Department of Food Sciences & Human Nutrition

D. FACULTY OF FISHERIES & WILDLIFE

- i. Department of Fisheries & Aquaculture
- ii. Department of Wildlife and Ecology

E. FACULTY OF LIFE SCIENCES BUSINESS MANAGEMENT

- i. Department of Livestock Economics & Business
- ii. Department of Statistics & Computer Science

F. INSTITUTE OF BIOCHEMISTRY & BIOTECHNOLOGY

- i. Discipline of Molecular Biology & Biotechnology
- ii. Discipline of Biochemistry
- iii. Discipline of Bioinformatics/Computational Biology (in process)

G. INSTITUTE OF PHARMACEUTICAL SCIENCES

- i. Discipline of Pharmaceutics

FACULTY OF VETERINARY SCIENCE

**M.Phil/ M.Phil leading to Ph.D/ Ph.D
Offering Departments**

Department of Clinical Medicine & Surgery

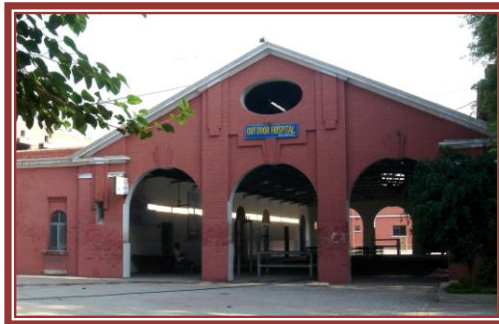
Department of Microbiology

Department of Parasitology

Department of Pathology

Department of Epidemiology and Public Health

Department of Theriogenology



DEPARTMENT OF CLINICAL MEDICINE AND SURGERY



INTRODUCTION

The Department of Clinical Medicine and Surgery was established with up-graduation of College of Veterinary Sciences, Lahore to the status of University of Veterinary and Animal Sciences, Lahore in June, 2002. Two components of the department (Medicine & Surgery) have been working for over a century, and providing best possible veterinary services to public & private sectors in Lahore and various parts of Pakistan. Currently the Department deals with teaching and research in the areas of Clinical Medicine and Surgery. It maintains two Hospitals viz. Out-Door Hospital, which looks after animals suffering from medicinal diseases, and In-Door Hospital, offering admission facilities to large animals (Equine and Bovine). The department offers a number of courses for postgraduate programs in the disciplines of Veterinary Medicine and Veterinary Surgery. The department is also extensively involved in research activities to cope with the emerging problems related to Veterinary Medicine and Surgery in the field conditions. The Department has recently established a well

equipped postgraduate research laboratory and operation theatre, which help in the post graduate research.

Laboratory Facilities

- Spectrophotometer
- Anaesthesia machine
- Autoclave
- Centrifuge machine
- Research microscope
- Radiography and ultrasonography
- Electric cautery
- Shoeing and soundness
- Antibiotic sensitivity
- Blood, faecal, urine, skin scraping examinations
- Diagnostic tests for mastitis, tuberculosis, brucellosis etc.

Farm Facilities:

The Department has collaborations with various Government, Military and Private Livestock farms which provide research facilities to the postgraduate students.

Pet Centre of the University is also linked with this Department which provides research opportunity to the postgraduate students.

Research priorities

Clinical Medicine(CM)

- i) A clinico-epidemiological studies and therapeutic trials on infectious diseases of animals.
- ii) Studies on the metabolic disorders, chemical and plant poisoning.
- iii) Development of indigenous treatment protocols.

Surgery

- i) Modern trends of reconstruction of various soft organs, like oesophagus, trachea, urinary bladder, ureters, skin muscles, blood vessels, and intestinal by-pass.
- ii) Use of cement for the healing of fractures, repair of fractures using external and internal implants, arthrodesis, etc.

iii) Introduction of various anaesthetic combinations in Avians, Equines, Bovines, Canines.

Use of gaseous anaesthetics for thoracic surgery.

Use of radiology for the diagnosis of various internal diseases and their radiotherapy.

COURSES OFFERED FOR M.PHIL/PH.D IN CLINICAL MEDICINE AND SURGERY

Course No.	Title	Creditor Hrs.
MED 1001	Biotechnology in Animal Health	4(3-1)
MED 1002	Clinical Laboratory Aids in Diagnosis	4(2-2)
MED 1003	Laboratory Animal Medicine	4(3-1)
MED 1004	Zoo and Wild Animal Medicine	4(3-1)
MED 1005	Diseases of Fish	4(3-1)
MED 1006	Veterinary Neonatology	3(3-0)
MED 1007	Veterinary Medicine and Human Health	4(3-1)
MED 1008	Diseases of Mammary Glands	4(3-1)
MED 1009	Advanced Dairy Herd Health	4(3-1)
MED 1010	Advanced Readings in Veterinary Medicine	1(1-0)
MED 1019	Special Problem	1(0-1)
MED 1020	Seminar	1(1-0)
S U R G E R Y		
Course No.	Title	Creditor Hrs.
SURG 1001	Advanced Small Animal Surgery	4(2-2)
SURG 1002	Advanced Surgical Techniques	4(2-2)
SURG 1003	Orthopaedic Surgery	4(2-2)
SURG 1004	Equine Surgery	4(2-2)
SURG 1005	Ruminant Surgery	4(2-2)
SURG 1006	Ophthalmic and Auricular Surgery	3(2-1)
SURG 1007	Radiology and Ultrasonography	3(2-1)
SURG 1008	Advanced Anaesthesiology and Intensive Care	3(2-1)
SURG 1009	Advanced Readings in Veterinary Surgery	1(1-0)
SURG 1019	Special Problem	1(0-1)
SURG 1020	Seminar	1(1-0)



FACULTY

Chairman

Prof. Dr. Muhammad Sarwar Khan

Clinical Medicine

Name:

Prof. Dr. Muhammad Sarwar Khan

Qualification: D.V.M., M.Sc. (Hons.), Ph.D.

Area of Specialization:

Veterinary Medicine

Name:

Dr. Anila Zameer Duraani

Associate Professor

Qualification:

D.V.M., M.Sc. (Hons.), Ph. D.

Area of Specialization:

Veterinary Medicine

Name:

Dr. Jawaria Ali Khan

Assistant Professor

Qualification:

D.V.M., M.Sc. (Hons.), Ph. D

Area of Specialization:

Veterinary Medicine

Name:

Dr. Muhammad Ijaz

Assistant Professor

Qualification:

D.V.M., M.Sc. (Hons.), Ph. D

Area of Specialization:

Veterinary Medicine

Name:

Dr. Muhammad Avais

Assistant Professor

Qualification:

D.V.M., M.Sc. (Hons.), Ph. D

Area of Specialization:

Veterinary Medicine

S u r g e r y

Name: **Prof. Dr. Muhammad Arif Khan**

Chairman

Qualification: D.V.M., M.Sc. (Hons), Ph.D.

Area of Specialization: Veterinary Surgery

Name: **Dr. Sadaf Aslam**

Assistant Professor

Qualification: D.V.M., M. Sc. (Hons), Ph.D. (Austria)

Area of Specialization: Veterinary Medicine

Name: **Mr. Hamad Bin Rashid**

Assistant Professor (on study leave)

Qualification: D.V.M., M.Sc. (Hons)

Area of Specialization: Veterinary Surgery

Name: **Mr. Naveed Hussain**

Lecturer

Qualification: D.V.M., M. Sc. (Hons)

Area of Specialization: Veterinary Surgery

Name: **Ms.Shela Gul Bukhari**

Lecturer (EOL, Ex. Pakistan)

Qualification: D.V.M., M.Sc. (Hons)

Area of Specialization: Veterinary Surgery

Name: **Ms. Ayesha Safder Ch.**

Lecturer (on study leave)

Qualification: D.V.M., M.Sc. (Hons)

Area of Specialization: Veterinary Medicine

Veterinary Hospital, Ravi Campus



Name: **Mr. Khalid Amin**
Subject Specialist
Qualification: D.V.M., M.Sc. (Hons)
Area of Specialization: Veterinary Surgery

Strengthening Of Veterinary Clinical Services



Name: **Mr. Muhammad Hassan Saleem**
Assistant Professor (on study leave)
Qualification: D.V.M., M.Sc. (Hons)
Area of Specialization: Veterinary Medicine

Pet Center



Name:	Mr. Asim Khalid Mahmood Assistant Professor/ Officer Incharge D.V.M., M. Sc (Hons)
Area of Specialization:	Veterinary Surgery
Name:	Mr. Zia Ullah Mughal Lecturer D.V.M., M. Sc (Hons)
Area of Specialization:	Veterinary Surgery

DEPARTMENT OF MICROBIOLOGY



INTRODUCTION:

Department of Microbiology is one of the core establishments of UVAS. The main purpose of the department is to train the students for isolation and identification of microbes of veterinary importance and to equip them with essentials of serological and molecular diagnosis, biologics production, fundamentals of industrial microbiology, etc. The department has an age-old tradition of being run by the most qualified people in the field of Microbiology. Most of its staff is foreign qualified, competent and experienced; all well-versed in their respected areas of specializations. The Department houses seven labs, two for undergraduate practical classes, one for postgraduate practical classes, one for cell culture and one for mycology lab for both undergraduates and post graduates and research labs for postgraduates. The cell culture facility is also available. Microbiology department attracts the most brilliant students in its master of philosophy and doctor of philosophy programs each year and grants equal opportunities to both genders. Its graduates have landed in very good

jobs and are serving competitively various private and public institutions throughout the world.

Laboratory Facilities In Terms of Equipment:

1. Fluorescent Microscope and Inverted Microscope
2. Water distillation system, conductivity meters
3. CO₂ incubator, Photo cabinet and egg incubator
4. Horizontal and vertical autoclaves
5. Pipette washer ultrasonic generator model G
6. Spectrophotometer, ELISA reader
7. Vertical electrophoresis, Cellulose acetate electrophoresis apparatus
8. Ice Maker
9. Electric and triple beam balances
10. pH meters,
11. Cell culture media filtering assemblies
12. Anaerobic Jar,
13. Freeze drying unit
14. High Speed refrigerated centrifuge, clinical centrifuges
15. Thin Layer chromatography apparatus
16. Roller tube culture incubator
17. Bio-fermentation system
18. Microwave and hot air ovens
19. Homogenizer and sonifier
20. Blotting system, Nitrogen containers,
21. Safety cabinets Class II

Research Priorities

- i) Isolation and identification of the causative agents of the newly emerging microbial diseases of livestock, human and poultry
- ii) Preparation and evaluation of biologics (vaccines, antimicrobial factors, diagnostic reagents, etc)
- iii) Qualitative and quantitative detection of mycotoxins and measures to overcome mycotoxicosis in animals
- iv) Physico-chemical factors affecting the survival of microbial pathogens (Bio-security).
Immunogenetics, Immunotherapy, Immunomodulations, Immunoprophylaxis, Immunoregulations and Immunodiagnosis of various diseases

COURSES OFFERED FOR M.PHIL/PH.D IN MICROBIOLOGY

Course No.	Title	Credit Hrs.
MICR 1001	Microbiological Techniques	3(1-2)
MICR 1002	Clinical Microbiology	3(1-2)
MICR 1003	Advanced General Bacteriology	3(2-1)
MICR 1004	Immunology	3(2-1)
MICR 1005	Systemic Bacteriology	4(1-2)
MICR 1006	Advanced Virology	4(2-2)
MICR 1007	Mycology	3(1-2)
MICR 1008	Cellular and Molecular Immunology	3(2-1)
MICR 1009	Mycotoxigenesis	3(1-2)
MICR 1010	Microbial Physiology	4(3-1)
MICR 1011	Cell Culture Techniques	3(2-1)
MICR 1012	Oncogenic Viruses	3(2-1)
MICR 1013	Molecular Biology of Bacterial Viruses	3(2-1)
MICR 1014	Advanced Anaerobiology	3(1-2)
MICR 1015	Advanced Spirochaetology	3(1-2)
MICR 1016	Immunological Techniques	3(0-3)
MICR 1017	Techniques in Molecular Biology	4(2-2)
MICR 1018	Advanced Epidemiology	4(3-1)
MICR 1019	Special Problem	1(0-1)
MICR 1020	Seminar	1(1-0)
MICR 1021	Vaccinology	3(2-1)
MICR 1022	Microbial Genetics	3(2-1)
MICR 1023	Avian Immunology	3(1-2)
MICR 1024	Animal Food Microbiology	4(2-2)
MICR 1025	Environmental Microbiology	3(2-1)
MICR 1026	Public Health Microbiology	4(3-1)
MICR 1027	Biotechnology	4(3-1)
MICR 1028	Current Topics in Immunology	1(1-0)
MICR 1029	Current Topics in Bacteriology	1(1-0)
MICR 1030	Current Topics in Virology	1(1-0)
MICR 1031	Current Topics in Mycology	1(1-0)

FACULTY

Name:	Prof. Dr. Khushi Muhammad
Qualification:	Chairman D.V.M., M. Sc. (Hons), Ph.D (UK)
Area of Specialization:	Microbiology/Immunology
Name:	Prof. Dr. Irshad Hussain
Qualification:	(EOL Ex. Pakistan) D.V.M., M. Sc. (Hons), Ph.D (USA), Post-Doc (USA)
Area of Specialization:	Molecular Biology
Name:	Dr. Aftab Ahmad Anjum
Qualification:	Associate Professor D.V.M. M. Sc. (Hons), Ph.D (UAF)
Area of Specialization:	Molecular Biology/ Mycology
Name:	Ms. Sameera Akhtar
Qualification:	Assistant Professor (EOL Ex. Pakistan) D.V.M., M.Sc. (Hons)
Area of Specialization:	Virology
Name:	Dr. Jawad Nazir
Qualification:	Assistant Professor D.V.M., M.Sc. (Hons), Ph. D (Germany)
Area of Specialization:	Animal / Environmental Virology
Name:	Mr. Shahan Azeem (study leave)
Qualification:	Assistant Professor D.V.M., M.Sc. (Hons)
Area of Specialization:	Virology, Immunology
Name:	Dr. Muhammad Nawaz
Qualification:	Assistant Professor M.Sc. Ph. D
Area of Specialization:	Medical & Industrial Microbiology and Molecular genetics,
Name:	Mr. Imran Najeeb (On study leave)
Qualification:	Lecturer D.V.M., M. Sc. (Hons)
Area of Specialization:	Molecular Biology/ Phycology

Name:	Mr. Muhammad Asad Ali
Qualification:	Lecturer
Area of Specialization:	D.V.M., M.Phil (Hons) Bacteriology, Molecular Biology
Name:	Ms Farah Khan
Qualification:	Lecturer
Area of Specialization:	M.Sc., M. Phil Molecular Genetics of Bacteria and Fungi
Name:	Mr. Hassaan Bin Aslam
Qualification:	Lecturer
Area of Specialization:	D.V.M. M. Phil (Microbiology) Molecular Immunology and Virology
Name:	Ms Rabia Tahir
Qualification:	Lecturer
Area of Specialization:	D.V.M. Virology and Cell Culture
Name:	Mr. Kashif Hanif
Qualification:	Teaching Assistant
Area of Specialization:	D.V.M. Vaccinology and Food Microbiology

DEPARTMENT OF PARASITOLOGY



INTRODUCTION:

Department of Parasitology was established in 1923 with the aim to disseminate and generate scientific knowledge relating to Parasitology. Parasites are common in animals and department is striving to generate awareness about the risks and losses associated with them. Department is playing a key role in this regard through education and research. Master (M.Sc.) degree programme was started in 1978 and so far 145 students have secured their M.Sc. (Hons.) / M. Phil degrees. Whereas Ph.D. degree programme was initiated in 1998 and eight Students have completed their Ph.D. Graduates of this department are serving in various national & international organizations. Presently 31 students are pursuing their M. Phil and Ph.D. degrees in the department. Numbers of students are being sponsored by various provincial governments. Prof. Dr. Azhar Maqbool is an approved HEC Supervisor and 05 scholars are sponsored by HEC to pursue their Ph. D degree.

Laboratory Facilities:

Department is well equipped with facilities to undertake research in the discipline. Our laboratory is providing research facilities and has collaboration with other institutes. Department is also imparting diagnostic services to livestock and poultry farmers, Lahore Zoo, Brookes Hospital and various departments of the University.

Advisory Services to Farmers:

Advisory services are provided to livestock sector to reduce the economic losses associated with parasites and to realize improved production through parasite control.

Research Priorities:

- i) Studies on the prevalence and control of zoonotic parasites.
- ii) Surveillance, diagnosis and control of economically important helminthic and protozoan infections.
- iii) Studies on arthropods of veterinary importance, their control and insect borne diseases.

COURSES OFFERED FOR M.PHIL/PH.D IN PARASITOLOGY

Course No.	Title	Credit Hrs.
PARA 1001	Advanced Parasitology General	4(3-1)
PARA 1002	Advanced Protozoology	4(3-1)
PARA 1003	Medical Entomology	4(3-1)
PARA 1004	Diagnostic Techniques in Parasitology	4(2-2)
PARA 1005	Wildlife Parasitology	3(1-2)
PARA 1006	Chemotherapy of Parasitic Diseases	4(3-1)
PARA 1007	Physiology of Endoparasites	4(3-1)
PARA 1008	Immunology of Parasitic Infections	4(3-1)
PARA 1009	Ecology of Animal Parasites	3(3-0)
PARA 1010	Medical Protozoology and Helminthology	4(3-1)
PARA 1011	Applied Helminthology	4(2-2)
PARA 1012	Epidemiology of Parasitic Diseases	4(2-2)
PARA 1013	In-Vitro Cultivation of Parasites	4(2-2)
PARA 1014	Biotechnology for Parasitic Control	4(2-2)
PARA 1015	Techniques in Molecular Parasitology	4(2-2)
PARA 1016	Advanced Parasitic Zoonoses	3(2-1)
PARA 1019	Special Problem	1(0-1)
PARA 1020	Seminar	1(1-0)

FACULTY

Name **Dr. Khalid Saeed**
Chairman/Associate Professor
Qualification D.V.M., M. Sc. (Hons.), Ph.D. (USA)
Area of Specialization Epidemiology & Economic importance of parasites, protozoan zoonosis.

Name **Prof. Dr. Azhar Maqbool**
Qualification D.V.M., M. Sc. (Hons), Ph.D.
Area of Specialization Epidemiology and Chemotherapy of Zoonotic Parasites

Name **Prof. Dr. Kamran Ashraf**
Qualification D.V.M., M. Sc. (Hons), Ph.D.
Area of Specialization Epidemiology & control of companion animal parasites

Name **Dr. Muhammad Lateef**
Associate Professor
Qualification D.V.M., M. Sc. (Hons), Ph.D.
Area of Specialization Epidemiology and control of nematodes, Warble fly infestation/infection

Name **Dr. Nisar Ahmad**
Assistant Professor
Qualification D.V.M., M.Sc. (Hons), Ph.D.
Area of Specialization Parasites of companion animals

Name **Mr. Wasim Shehzad**
Assistant Professor
Qualification D.V.M., M.Sc. (Hons.)/ Ex-Pakistan Study Leave

Name **Mr. Muhammad Imran Rashid**
Assistant Professor
Qualification D.V.M., M. Sc. (Hons.)/ Ex-Pakistan Study Leave

Name **Mr. Haroon Akbar**
Lecturer
Qualification D.V.M., M. Sc. (Hons.)/ Ex-Pakistan Study Leave

DEPARTMENT OF PATHOLOGY



INTRODUCTION

The Department of Pathology is successfully fulfilling the ever increasing demands in both research and academics needed for the poultry and livestock sector. Undoubtedly, it is one of the best departments in the university and is equipped with latest equipment. Recently, molecular based diagnostic laboratory has been added to facilitate research in this area. A number of research projects have been successfully completed by the department. Newly renovated post mortem block along with the modern histopathology laboratory has been providing diagnostic facilities to indoor and outdoor clinical cases of the university and also to the livestock & poultry sectors, by classical histopathology and latest immuno-histochemistry techniques.

In addition to teaching various undergraduate and postgraduate classes, department is carrying out various activities like post mortem examination of poultry, large & small animals, vetero-legal necropsy examinations, hematology, blood chemistry (LFT and KFT) and urinalysis.

MISSION

Our mission is to offer a critical link between the basic and clinical sciences through essential roles in **a) learning for graduate, postgraduate students and veterinarians, b) diagnosis and reporting of diseases in domestic animals, and c) conducting scientific research.** Our faculty supports interdisciplinary partnership and offers a diverse spectrum of research technologies to further enhance a strong research atmosphere and provides upgraded post-graduate courses. So, it's a great opportunity for postgraduate students to especially learn the modern techniques and equipments to cope with the ever changing demands of the profession.

VISION

Our vision is to escort the leading curriculum for postgraduate students in domain of pathology and lead M.phil. and PhD training for future scientists, teachers, and diagnosticians as a national resource. The impact will be excellence in all three mission areas. Our department will provide access to the best experts in pathology, clinical pathology and molecular pathobiology in the areas of infectious and emerging diseases, parasitic diseases, animal models, and diseases of high consequence to animal and human health through integrated education, diagnostics, and research.

RESEARCH PRIORITIES

1. Development of advanced molecular diagnostic techniques for various infectious diseases
2. Pathology and pathogenesis of various diseases of zoonotic importance
3. Understanding the pathological mechanisms of infectious diseases caused by bacteria, viruses, parasites, and their vectors
4. Developing novel approaches in the research of host-pathogen interaction and exploring its molecular pathogenesis for various infectious diseases.
5. Studies on pathological effects of drugs/indigenous plants/ fungal toxins in animals and poultry
6. Pathology and pathogenesis of infectious and non-infectious diseases of poultry
7. Building bridge between basic research and in vivo application using animal models

Activities of Department in addition to Training & Research:

- Post mortem examination of poultry, large and small animals
- Vetro-legal necropsy examination
- Hematology

- Blood Chemistry
- Liver and kidney function tests
- Serum analysis
- Histopathology
- Urinalysis
- Tissue Image analysis
- Fluorescent Microscopy
- Polymerase Chain Reaction (PCR)



COURSES OFFERED

Course No	Title	Credit Hrs
PATH 1001	Advanced General Pathology	4(3-1)
PATH 1002	Advanced Clinical Pathology	3(1-2)
PATH 1003	Necropsy Practice	2(0-2)
PATH 1004	Diagnostic Pathology	3(0-3)
PATH 1005	Oncology	3(2-1)
PATH 1006	Pathology of intoxications	3(3-1)
PATH 1007	Canine and Feline Pathology	3(2-1)
PATH 1008	Ruminants Pathology	4(3-1)
PATH 1009	Equine Pathology	3(2-1)
PATH 1010	Camel Pathology	3(2-1)
PATH 1011	Fish Pathology	3(2-1)
PATH 1012	Wildlife Pathology	3(2-1)
PATH 1013	Pathology of infectious diseases of Poultry	4(3-1)
PATH 1014	Pathology of non-infectious diseases of Poultry	3(2-1)
PATH 1015	Food Animal Pathology	3(2-1)
PATH 1016	Immunopathology	3(2-1)
PATH 1017	Molecular Pathobiology	3(2-1)
PATH 1019	Special Problem	1(0-1)
PATH 1020	Seminar	1(1-0)

FACILITIES

Principal Equipment	Salient Features/Services
<ul style="list-style-type: none"> • Molecular diagnostic lab • Automatic Tissue Processor • Cryostat, Auto staining unit • Hematology Analyzer • Chemistry Analyzer • Image Analysis System • Fluorescent Microscope • pH meter, Spectrophotometer • Latest microscopes with cameras/multimedia 	<ul style="list-style-type: none"> ▪ Polymerase Chain Reaction for diagnosis of Bacterial, Viral, and Protozoan Parasites ▪ Histopathology, Automatic Tissue Processing ▪ Cryosectioning, Auto Staining ▪ Hematology ▪ Blood Chemistry Analysis ▪ Immunohistochemistry ▪ Fluorescent Microscopy for chromosomes and cells ▪ Postmortem Examination ▪ Routine Urine Analysis ▪ Detection of Mycobacteria and Meat Inspection

FACULTY

Name:	Dr. Asim Aslam
Qualification:	Chairman / Associate Professor
Area of Specialization:	D.V.M, M.Sc. (Hons), Ph. D Veterinary Pathology
Name:	Prof. Dr. Ashiq Hussain Cheema
Qualification:	Visiting faculty
Area of Specialization:	B.Sc.(AH), M.Sc. Ph. D (USA) Veterinary Pathology
Name:	Dr. Mati-ur-Rehman Khan
Qualification:	Assitant Professor
Area of Specialization:	D.V.M, M. Sc. (Hons.), Ph.D (China) Veterinary Pathology
Name:	Dr. Raheela Akhtar
Qualification:	Assistant Professor
Area of Specialization:	DVM, M.Sc. (Hons), Ph.D Veterinary Pathology
Name:	Dr. Muhammad Suleman
Qualification:	Assistant Professor
Area of Specialization:	DVM, M.Phil., M.S. (France), Ph.D (France) Molecular Pathobiology/Disease diagnosis & Control
Name:	Ms. Gulbeena Saleem (EOL)
Qualification:	Assistant Professor
Area of Specialization:	D.V.M, M. Sc. (Hons) Veterinary Pathology
Name:	Dr. Kashif Aziz Khan (EOL)
Qualification:	Lecturer
Area of Specialization:	D.V.M, MSc (Hons), Ph.D (France) Veterinary Pathology
Name:	Dr. Salik Hussain (EOL)
Qualification:	Lecturer
Area of Specialization:	D.V.M, MSc (Hons), Ph.D (France) Veterinary Pathology
Name:	Mr. Ishtiaq Ahmad
Qualification:	Lecturer
Area of Specialization:	DVM, M.Sc. (Hons) Veterinary Pathology

Name: **Hafiza Qamar-un-Nisa**
Lecturer
Qualification: DVM, M. Phil.,
Area of Specialization: Veterinary Pathology

Name: **Mr. Irfan Irshad**
Lecturer
Qualification: DVM, M. Phil.(Pathology), M.Sc, (Computer Sciences)
Area of Specialization: Veterinary Pathology

The Department has organized a number of workshops, training courses and seminars to enhance the awareness of Veterinarians, Para-veterinary staff and farmers about the field of epidemiology.

Aims & Objectives

- To train DVM, M.Phil and PhD students in the subject of Epidemiology (Human Resource Development).
- To train stakeholder and Para veterinary staff.
- To carry out applied and basic problem oriented research

Curricular and Co-Curricular Activities

Teachers of the department have also the honor of being involved in curricular and co-curricular activities some of which are as follows:

- Examiners for various postgraduate examinations of different universities like University of the Punjab Lahore, NUST, and Islamabad.
- Deliver lectures to postgraduate students of King Edward Medical University, Lahore.
- Examiner of Master in Public Health in Lahore University.
- Presentation of research work in international conferences.

Research Priorities

Research priorities are focused to conduct innovative epidemiological research for risk assessment, development and established centers of excellence in epidemiology, food hygiene, public health and herd health. Recently department has started several research projects of molecular epidemiology to establish use of recent molecular techniques Following are some of the Research priorities of the department:

1. Herd Health management in relation to animal food production.
2. Emerging public health problems and Zoonotic diseases.
3. Disease prevention, control and eradication of major livestock diseases.
4. Food safety with respect to milk & meat quality control.
5. Epidemiology and ranking order of infectious and non-infectious diseases of poultry & livestock.
6. Epidemiology and surveillance of diseases.
7. Investigation of outbreaks/epidemics.

8. Animal and public health policy.
9. Studies on multiple drug resistance.
10. Molecular epidemiology of different diseases



Principal Equipment

- Ion Analyzer
- Biohazard safety cabinet class-II
- Electronic Balance
- Microscope with built in digital camera, model M9, swift Japan with computer and printer.
- Hot Air Oven
- Bench top centrifuge machine
- Incubator
- Microcentrifuge machine digital microprocessor controlled
- Rotatory shaking incubator
- Fully automatic autoclave
- Water bath
- Distilled water apparatus
- ELISA reader
- Micropipette
- Ultra low temperature freezer

Salient Facilities/Services

- Detection of Elements in Milk and Food items.
- Culturing of pathogenic microorganism.
- Identification of microorganism, bacteria mold, yeast and parasites, etc.
- Sterilization of Glassware
- Centrifugation of material for research
- Growth and Incubation of bacteria
- RNA & DNA extraction
- Gene cloning
- Agarose Gel electrophoresis

FACULTY

Name:	Prof. Dr. Muhammad Athar Khan
Qualification:	Chairman Ph.D, M.P.H., M.Sc., & D.V.M
Area of Specialization:	Veterinary Epidemiology and Public Health
Name :	Prof. Dr. Mansur-ud-Din Ahmad
Qualification:	Ph.D
Area of Specialization:	Monoclonal Antibodies, Zoonotic Disease, Epidemiology.
Name:	Ms. Mamoon Chaudhry
Qualification:	Assistant Professor (On Ex-Pakistan Study Leave) M.Sc. (Hons.), D.V.M
Area of Specialization:	Veterinary Epidemiology and Public Health
Name:	Dr. Muhammad Hassan Mushtaq
Qualification:	Assistant Professor (TTS) D.V.M, Ph.D.
Area of Specialization:	Preventive Veterinary Medicine/ Molecular Epidemiology
Name:	Mr. Tariq Abbas
Qualification:	Lecturer (On Ex-Pakistan Study Leave) M.Sc. (Hons.)
Area of Specialization:	Veterinary Epidemiology and Public Health

COURSE OFFERED

Course No	Title	Credit Hrs.
EPPH 1000	Research & Thesis Dissertation.	10(10-0)
EPPH 1001	Design and Analysis of Clinical Trails	4(3-1)
EPPH 1002	Advanced Veterinary Preventive Medicine	4(3-1)
EPPH 1003	Epidemiological Approaches to Disease Investigation and Control	4(4-0)
EPPH 1004	Communicable Disease Control	4(3-1)
EPPH 1005	Epidemiological Surveillance	4(3-1)
EPPH 1006	Case Control Studies and Cohort Studies	4(3-1)
EPPH 1007	Advanced Reading in Preventive Medicine and Public Health	1(1-0)
EPPH 1008	Zoonoses and Their Control Strategies	3(3-0)
EPPH 1009	Advanced Herd Health and Husbandry Practices	2(2-0)
EPPH 1010	Problems in Disease Control and Eradication	3(3-0)
EPPH 1011	Active Surveillance and Passive Surveillance	3(3-0)
EPPH 1012	Control of Mastitis, Neonatal Mortality and Infertility	3(3-0)
EPPH 1013	Epidemiology and Control of Reproductive Disorders	2(2-0)
EPPH 1014	Epidemiology and Control of Sheep and Goat Diseases	3(3-0)
EPPH 1015	Epidemiology and Control of Buffalo and Cattle Disease	3(3-0)
EPPH 1016	Advanced Strategies for Livestock Vaccination	2(2-0)
EPPH 1017	Surveillance and Control of Avian Diseases	3-(3-0)
EPPH 1018	Advanced Strategies of Poultry Vaccination	2-(2-0)
EPPH 1019	Special Problem	1(0-2)
EPPH 1020	Seminar	1(1-0)

DEPARTMENT OF THERIOGENOLOGY



INTRODUCTION

The Department of Animal Reproduction (now Theriogenology) was established in 1980. The founder chairman of the Department was Prof. Dr. Manzoor Ahmad. Ph.D Program commenced in 2004. Some of the former graduates of this Department attained primary positions in the area teaching, research and clinical work in the USA and Canada. More than 85 postgraduate students have so far been produced.

The main objectives are as under:

- To Train (theory, practical, clinical), DVM and M.Phil/ Ph.D students in Theriogenology.
- To train stake holder and para vets through short courses and workshops in Theriogenology.
- To carry out applied and basic problems oriented research in reproduction.
- To provide clinical services to the animal owners in animal reproduction.

FACILITIES

The Department has experimental herd of more than 20 cattle and buffalo, maintained at the animals shed. The department has a clinic where outdoor and indoor facilities are available for the diagnosis, management and treatment of referred sick animals. The state of the art diagnostic and research ultrasonography are available. Scientific papers from this department have been published in peer reviewed international journals like Theriogenology, Animal Reproduction Science, The Veterinary Record, Reproduction in Domestic Animals, Reproduction Fertility and Development, etc.,

Presently 4 Ph.D. and 15 M.Phil. students are enrolled. The department has two research projects, the detail is given below:

1. Pak-US S&T research project **“New approaches of estrus synchronization to improve reproductive performance in dairy animals.”**
2. HEC funded project **“Parthenogenetic activation and development of Mouse embryos”** worth Rs. 9.45 Millions.

Research Priorities

The priorities of research of Theriogenology Department are:

- i) Preservation, evaluation and A.I. services with Semen.
- ii) Ovarian follicular development in farm animals (local breed)

COURSE OFFERED

Course No.	Title	Credit Hrs.
THER 1001	Reproduction in farm animals	4(3-1)
THER 1002	Artificial insemination	4(3-1)
THER 1003	Comparative reproduction	4(3-1)
THER 1004	Physiological chemistry and preservation of semen	4(3-1)
THER 1006	Advanced obstetrics	4(3-1)
THER 1007	Infertility and genital diseases	4(3-1)
THER 1008	Equine reproduction	4(3-1)
THER 1009	Canine reproduction	4(3-1)
THER 1010	Embryo Transfer in farm animals	4(1-3)
THER 1011	Diagnostic ultrasonography in animal reproduction	3(1-2)
THER 1012	Camel reproduction	3(2-1)
THER 1019	Special problem	1(0-1)
THER 1020	Seminar	1(1-0)

FACULTY

Name:	Prof. Dr. Nasim Ahmed Dean/ Professor (Tenure Track System)
Qualification:	D.V.M., M. Sc (Hons), Ph.D (USA)
Area of Specialization:	Reproductive Physiology
Name:	Prof. Dr. Muhammad Aleem (On long leave)
Qualification:	D.V.M., M. Sc (Hons), Ph.D. (USA), Post Doc (UK)
Area of Specialization:	Obstetrics & Genital Diseases
Name:	Dr. Mian Abdul Sattar Chairman/Associate Professor
Qualification:	D.V.M., M. Sc (Hons), Ph.D., Post Doc (Italy)
Area of Specialization:	Reproductive Management
Name:	Mr. Muhammad Amir Saeed Assistant Professor (Ex-Pakistan Leave)
Qualification:	D.V.M., M.Sc. (Hons)
Area of Specialization:	Animal Reproduction
Name:	Dr. Amjad Riaz Assistant Professor (Tenure Track System)
Qualification:	D.V.M., M. Sc (Hons), Ph.D
Area of Specialization:	Reproductive Biotechnology
Name:	Mr. Aijaz Ali Channa Assistant Professor
Qualification:	D.V.M., M.Sc. (Hons)
Area of Specialization:	Animal Reproduction
Name:	Mr. Muhammad Rizwan Yousaf Assistant Professor
Qualification:	D.V.M., M. Sc. (Hons)
Area of Specialization:	Animal Reproduction
Name:	Mr. Muhammad Irfan-ur-Rehman Khan Lecturer (E.O.L-Studying in Canada)
Qualification:	D.V.M., M.Phil
Area of Specialization:	Theriogenology
Name:	Mr. Mushtaq Ahmad Lecturer (on contract)
Qualification:	D.V.M., M. Phil
Area of Specialization:	Theriogenology

Name:	Mr. Muhammad Usman Mehmood
Qualification:	Teaching Assistant
Area of Specialization:	D.V.M.
	Theriogenology

FACULTY OF ANIMAL PRODUCTION
& TECHNOLOGY

M.Phil/ M.Phil Leading to Ph.D/ Ph.D offering Departments

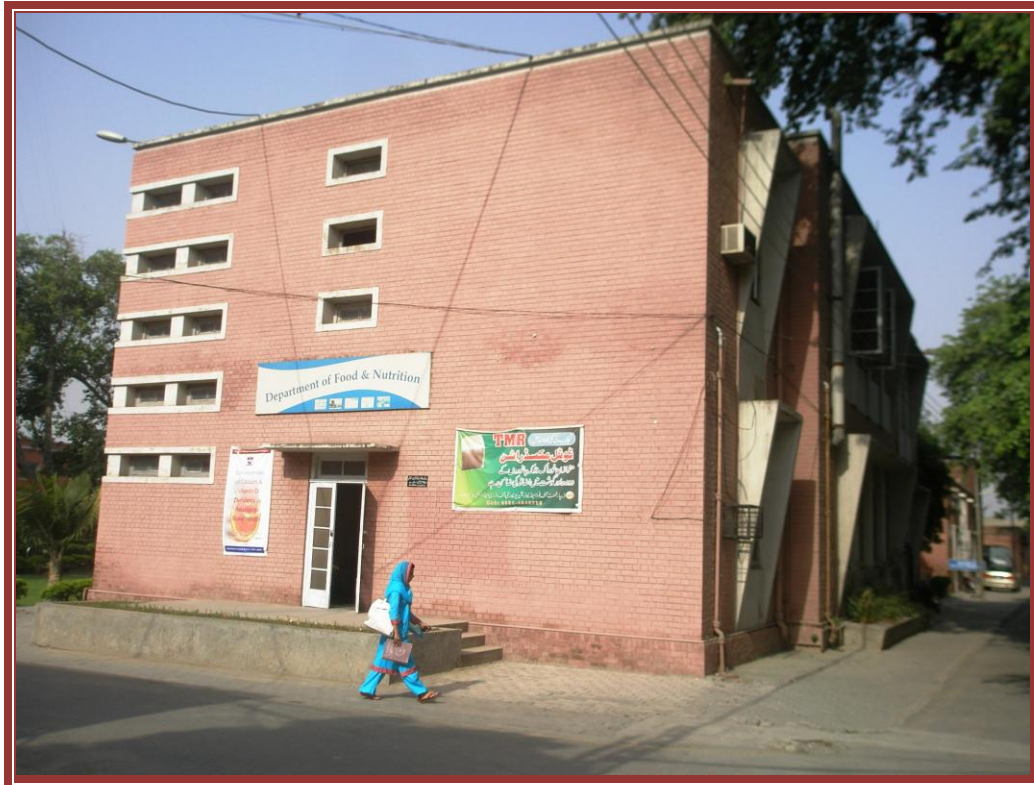
Department of Animal Nutrition

Department of Livestock Production

Department of Poultry Production

Department of Dairy Technology

DEPARTMENT OF ANIMAL NUTRITION



INTRODUCTION

Department of Food & Nutrition started as Animal Nutrition Section which was established at College Of Animal Husbandry in 1954 under the inter-college exchange program between the Punjab University (College of Animal Husbandry) and Washington State University U.S.A. Later on the section was transferred to the Directorate of Livestock Farms in 1962. After integration with College of Veterinary Sciences, Lahore the nomenclature of Section was changed to Department of Animal Nutrition. Since its inception department has significantly contributed in solving field problems. It has played a pivotal role in providing the trained man power in the field of Animal Nutrition and met the demand of Poultry Feed Industry. It has produced more than 350 M.Sc. (Hons)/M.Phil students in the subject of Animal Nutrition. Department is well equipped with teaching staff of 11 Faculty with 5 Ph.D in the subject. Three Faculty members (Professor Dr. Talat Naseer Pasha, Prof. Dr. Makhdoom Abdul Jabbar and Dr. Muhammad Nasir) are the approved Supervisors from HEC. Department has the privilege of having an International Faculty (Prof. Dr. Arata Koga) from Japan.

At present, Department has two specialized Disciplines i.e. Animal Nutrition and Food and Nutrition (Human Nutrition). The Discipline of Food and Nutrition was initiated in 2008-

09 after the approval from statutory bodies of the university. At present only Postgraduate Degree is being awarded in the Discipline of Food and Nutrition. However, initiation of undergraduate degree program in this subject is under process. Mission of the Department is to train the manpower through hand on training so that they may not feel difficulty in solving problems when they start their practical life.

Laboratory Facilities

Department laboratories are under the evolutionary phase. There are different modern and sophisticated instruments available including Gas Chromatography, Bomb Calorimeter and flame photometer etc. Undergraduate and post graduate laboratories are well equipped and students remain engaged in learning different analytical skills.

COURSES OFFERED FOR M.PHIL/PH.D IN ANIMAL NUTRITION

Course No.	Title	Credit Hrs.
NUTR-1001	Physiology and Biochemistry of Animal Nutrition	4(4-0)
NUTR-1002	Feed Resources and Their Nutritive Value	3(2-1)
NUTR-1003	Energy Metabolism	3(3-0)
NUTR-1004	Protein Metabolism	3(2-1)
NUTR-1005	Minerals in Animal Nutrition	3(2-1)
NUTR-1006	Vitamins in Animal Nutrition	3(2-1)
NUTR-1007	Analytical Techniques in Animal Nutrition	4(0-4)
NUTR-1008	Advanced Chemical & Biological Techniques in Animal Nutrition	2(0-2)
NUTR-1009	Research Designing and Methodology in Animal Nutrition	3(2-1)
NUTR-1010	Nutrition of Broiler	3(2-1)
NUTR-1011	Nutrition of Layers	3(2-1)
NUTR-1012	Nutrition of Indigenous Poultry & other Birds	3(2-1)
NUTR-1013	Equine Nutrition	2(2-0)
NUTR-1014	Camel Nutrition	2(2-0)
NUTR-1015	Nutrition of Dairy Animals	3(2-1)
NUTR-1016	Nutrition of Beef Animals	3(2-1)
NUTR-1017	Nutrition of Small Ruminants	3(2-1)
NUTR-1018	Feed Manufacturing Technology	3(2-1)
NUTR-1019	Special Problem	1(0-1)
NUTR-1020	Seminar	1(1-0)
NUTR-1021	Recent Advances in Animal Nutrition	2(2-0)
NUTR-1022	Toxins and Anti-nutritional Factors in Indigenous Feedstuffs	3(2-1)
NUTR-1023	Fish Nutrition	2(1-1)
NUTR-1024	Nutrition of Pet and Zoo Animals	2(1-1)
NUTR-1025	Feed Biotechnology	3(2-1)

COURSES OFFERED FOR M.PHIL/PH.D IN FOOD AND NUTRITION

Course No.	Title	Credit Hrs.
FNUT-1001	Introduction to Human Nutrition	3(3-0)
FNUT-1002	Introduction to Food Science	3(2-1)
FNUT-1003	Biochemistry & Physiology of Human Body	3(2-1)
FNUT-1004	Protein Metabolism	3(2-1)
FNUT-1005	Energy Metabolism	3(2-1)
FNUT-1006	Vitamins & Minerals in Human Nutrition	3(2-1)
FNUT-1007	Dietetics	3(2-1)
FNUT-1008	Human Nutrition Disorders & Disease Prevention	3(2-1)
FNUT-1009	Community Nutrition	2(2-0)
FNUT-1010	Lab. Techniques in Human Nutrition	2(0-2)
FNUT-1011	Food Processing & Cooking Recipes	4(2-2)
FNUT-1012	Clinical Nutrition	4(3-1)
FNUT-1013	Maternal & Pediatric Nutrition	2(2-0)
FNUT-1014	Sports Nutrition	2(2-0)
FNUT-1015	Nutraceuticals /Functional Foods	2(2-0)
FNUT-1016	Research Methods in Human Nutrition	2(1-1)
FNUT-1019	Special Problem	1(0-1)
FNUT-1020	Seminar	1(1-0)

FACULTY

Name:	Prof. Dr. Talat Naseer Pasha
Qualification:	Vice Chancellor D.V.M., M. Sc (Hons), Ph.D (U.S.A)
Area of Specialization:	Animal Nutrition
Name:	Prof. Dr. Anjum Khalique
Qualification:	Chairman D.V.M., M. Sc (Hons), Ph.D
Area of Specialization:	Animal Nutrition
Name:	Dr. Saima
Qualification:	Assistant Professor (Tenure Track System) Ph.D
Area of Specialization:	Animal Nutrition
Name:	Mr. Muhammad Kamran
Qualification:	Lecturer (on study leave) M.Sc (Hons)
Area of Specialization:	Animal Nutrition
Name:	Mr. Saeed Ahmad
Qualification:	Lecturer (on study leave) M.Sc (Hons)
Area of Specialization:	Animal Nutrition
Name:	Miss. Samra Iqbal
Qualification:	Lecturer (E.O.L) M.Sc (Hons)
Area of Specialization:	Animal Nutrition
Name:	Mr. Ehsan Ullah Khan
Qualification:	Lecturer (on contract) M. Phil
Area of Specialization:	Animal Nutrition
Name:	Mr. Umar Farooq
Qualification:	Lecturer M. Phil
Area of Specialization:	Animal Nutrition

DEPARTMENT OF LIVESTOCK PRODUCTION



The Department of Livestock Production is mandated to foster education, training and research in the areas of:

1. **Livestock Management**
2. **Animal Genetics and Breeding**

OBJECTIVES:

- Development and delivery of sustainable livestock production practices
- Dissemination of knowledge and training for improving livestock productivity through innovation and modernization
- Developing and introducing indigenous methods of dairy and livestock commercialization
- Improving genetic potential of dairy and meat livestock using integrated approach of population and molecular genetics

The two disciplines are deemed to be the backbone of profitable livestock entrepreneurship. The Department is offering teaching and research at all levels ranging from vocational level to Ph.D. Keeping in view the recent and projected pace of expansion and commercialization in dairy and meat industry, the department has undergone substantial expansion and has been able to win highest number of research projects from national and international grant agencies such as HEC, PSF, PARB, ALP, USAID worth millions of rupees.

The teaching and research facilities available with the Department include:

- Dairy Animals Training and Research Centre (DAT&RC)
- Small Ruminants Training and Research Centre
- Diagnostic and Dairy Lab
- Animal Genetics Lab

Completed research projects

- Phenotypic and Genetic Characterization of Pakistani Sheep and Goat Breeds (ALP)
- Feeding Management for Optimum Growth, Early Maturity in Sahiwal Cattle (APL)
- Cytogenetic characterization of buffaloes for genetic improvement in Punjab (PSF)

Ongoing Projects:

- Cytogenetic and Molecular FISH studies in Breeds of Punjab (HEC)
- Feeding Management for Optimum Growth, Early Maturity in Buffaloes (PARB)
- Cost Effective Mutton Production through Enhanced Prolificacy Management (PARB)

International Research Collaborations:

- Whole genome sequencing of Nili Ravi Buffalo for SNP discovery and development of commercial 700K marker panel for selection with International Water Buffalo Consortium (IWBC)
- Genetic characterization of Aseel Chicken with Fredreick Loeffeler Institute Germany

- Genetic structure of cattle breeds with USDA Bovine Functional Genomic Lab at Maryland, Washington DC

LABORATORY FACILITIES



The department has established a well equipped Animal Genetics Lab (AGL) at Ravi Campus Pattoki which is undertaking advanced research in clinical cytogenetics of farm animals. It is also fully equipped to undertake studies on genetic characterization, genes influencing economic traits in farm animals.

FARM FACILITIES

The Department of Livestock Production has also been able to established Small Ruminant Training Research Centre at Ravi Campus, Pattoki. Most recently a mega Dairy Animals Training & Research (DAT & RC) Complex has been completed with state of the art animal sheds, milking parlor, dairy and diagnostic lab and fodder production and preservation facilities. It has a capacity to house 100



cattle and 100 buffaloes and at present Nili Ravi buffaloes and Sahiwal cattle are being procured to run the most extensive dairy set up of Pakistan.

COURSES OFFERED FOR M.PHIL/PH.D IN LIVESTOCK MANAGEMENT

Course No.	Title	Credit Hrs.
LSMG-1001	Dairy Production	4(3-1)
LSMG-1002	Lactation Biology	4(3-1)
LSMG-1003	Behavior and Welfare of Farm Animals	4(3-1)
LSMG-1004	Commercial Livestock Production	4(3-1)
LSMG-1005	Livestock Production in the Tropics	4(3-1)
LSMG-1006	Livestock Production on Ranges and Pastures	3(2-1)
LSMG-1007	Management of Draught Animals	3(2-1)
LSMG-1008	Meat Production	4(3-1)
LSMG-1009	Small Ruminants Production	4(3-1)
LSMG-1010	Animal Fiber Science	4(3-1)
LSMG-1011	Livestock Production Trends and Potential	4(4-0)
LSMG-1012	Recent Advances in Livestock Management	3(3-0)
LSMG-1019	Special Problem	1(0-1)
LSMG-1020	Seminar	1(1-0)

COURSES OFFERED FOR M.PHIL/PH.D IN ANIMAL BREEDING AND GENETICS

Course No.	Title	Credit Hrs.
ANBG-1001	General Genetics	4(3-1)
ANBG-1002	Population Genetics	4(3-1)
ANBG-1003	Animal Breeding Plans	3(2-1)
ANBG-1004	Breeding of Farm Animals	4(3-1)
ANBG-1005	Statistical Method in Animal Production Research	4(3-1)
ANBG-1006	Efficiency of Reproduction in Farm Animals	4(3-1)
ANBG-1007	Biometrical Genetics	4(3-1)
ANBG-1008	Theory of Genetic Selection	4(4-0)
ANBG-1009	Inbreeding in Farm Animals	4(3-1)
ANBG-1010	Experimental Techniques in Population Genetics	4(2-2)
ANBG-1011	Molecular Genetics	4(3-1)
ANBG-1012	Poultry Genetics and Breeding	4(3-1)
ANBG-1013	Fish Genetics and Breeding	3(3-0)
ANBG-1014	Advanced Animal Breeding	4(4-0)
ANBG-1019	Special Problem	1(0-1)
ANBG-1020	Seminar	1(1-0)

FACULTY

Name: Prof. Dr. Muhammad Abdullah
Dean
Qualification: Ph.D (U.S.A)
Area of Specialization: Dairy Science



Name: Prof. Dr. Khalid Javed
Chairman
Qualification: MSc (Hons), Ph.D
Area of Specialization: Population Genetics



Name: Dr. Jalees Ahmed Bhatti
Associate Professor
Qualification: M.Sc (Hons), Ph. D
Area of Specialization: Forage Production & Utilization



Name: Dr. Ahmad Ali
Designation: Associate Professor (TTS)
Qualification: M.Sc (Hons), Ph. D
Area of Specialization: Molecular and Cytogenetics



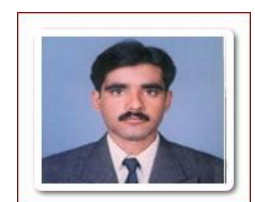
Name: Mr. Nisar Ahmed
Designation: Assistant Professor
Qualification: M.Sc (Hons)
Area of Specialization: Small Ruminant Reproductive Management



Name: Dr. Afzal Ali
Designation: Assistant Professor
Qualification: Ph.D.
Area of Specialization: Quantitative Genetics



Name: Mr. Imtiaz Ahmed Sajid
Designation: Lecturer (on study leave)
Qualification: M.Sc (Hons)
Area of Specialization: Beef Genetics and Genomics



Name:
Designation
Qualification:
Area of Specialization:

Mr. Muhammad Qamar Shahid
Lecturer
M.Sc (Hons)
Dairy Cattle Production



Name:
Designation:
Qualification:
Area of Specialization:

Dr. Hamid Mustafa
Lecturer
BSc (Hons) AH, DVM, Ph.D (Scholar)
Bovine Functional Genomics



Name:
Designation
Qualification:
Area of Specialization:

Mr. Imran Moshin
Lecturer
M. Phil
Livestock Management
(Small ruminant production)



Name:
Designation
Qualification:
Area of Specialization:

Mr. Hifz-ul- Rehman
Lecturer (on contract)
M. Phil
Livestock Management



Name:
Designation
Qualification
Area of specialization:

Mr. Muhammad Saadullah
Lecturer
M. Phil
Livestock Nutrition (Fodder preservation)



Name:
Qualifications:
Designation:
Area of specialization:

Mr. Dilshad Rashid
DVM
Lecturer
Dairy Farm Management



DEPARTMENT OF POULTRY PRODUCTION



INTRODUCTION

The Department of Poultry Production offers M.Phil and Ph.D degree programs.

Besides teaching and research work, the department is also providing extension services in the form of technical advices to layer, broiler and breeder farmers, hatcheries, poultry processing plants and allied groups. A close liaison has been established between the department and different national and international groups of poultry industry which helps in identifying the real issues and problems of Poultry industry. The research findings based on problem oriented research are communicated to the stake holders through meetings and group discussions



Research Priorities

- I. Evolving high yielding germ-plasm for commercial & rural poultry sector;
- II. Optimizing feed & nutrient requirement of poultry birds for different stages & purposes;
- III. Poultry processing, value addition, product development and marketing;
- IV. Poultry reproductive physiology;
- V. Poultry Housing & Environmental Management.

COURSE OFFERED FOR FOR M.PHIL/PH.D IN POULTRY PRODUCTION

Course No.	Title	Credit Hrs.
PPRO-1001	Poultry Breeding and Production	4(3-1)
PPRO-1002	Hatchery Operation and Management	4(3-1)
PPRO-1003	Poultry Housing and Environment	4(3-1)
PPRO-1004	Poultry Feeding Practices	4(3-1)
PPRO-1005	Commercial Layer Farming	4(3-1)
PPRO-1006	Production of Table Poultry	4(3-1)
PPRO-1007	Poultry Health and Hygiene	4(3-1)
PPRO-1008	Poultry Products	4(3-1)
PPRO-1009	Avian Physiology	3(2-1)
PPRO-1010	Avian Embryology	3(2-1)
PPRO-1011	Poultry Business Management	3(2-1)
PPRO-1012	Recent Advances in Poultry Science	3(2-1)
PPRO-1013	Poultry Industry in Pakistan	3(2-1)
PPRO-1019	Special Problem	1 (0-1)
PPRO-1020	Seminar	1 (1-0)

FACULTY

Name:	Prof. Dr. Muhammad Akram
Qualification:	Chairman
Area of Specialization:	Ph.D, Post Doc (S. Korea) Poultry Husbandry
Name:	Dr. Abdul Waheed Sahota
Qualification:	Associate Professor
Area of Specialization:	Ph.D. Poultry Husbandry
Name:	Dr. Athar Mahmud
Qualification:	Assistant Professor
Area of Specialization:	Ph.D Animal Nutrition
Name:	Mr. Shahid Javaid
Qualification:	Assistant Professor
Area of Specialization:	M.Sc. (Hons) Poultry Husbandry
Name:	Mrs. Atia Bashir
Qualification:	Assistant Professor (E.OL)
Area of Specialization:	M.Sc. (Hons) Poultry Husbandry
Name:	Mr. Saeed Imran
Qualification:	Assistant Professor
Area of Specialization:	M.Sc. (Hons) Poultry Pathology
Name:	Mr. Imran Zahoor
Qualification:	Lecturer (on study leave)
Area of Specialization:	M. Phil Poultry Production
Name:	Mr. Muhammad Hayat Jaspal
Qualification:	Veterinary Officer (on study leave)
Area of Specialization:	M. Phil Poultry Meat Science & Technology

Name:

Mr. Jibran Hussain

Lecturer

Qualification:

M. Sc. (Hons)

Area of Specialization:

Poultry Husbandry

Name:

Mr. Shahid Mehmood

Lecturer

Qualification:

M. Sc. (Hons)

Area of Specialization:

Poultry Husbandry

DEPARTMENT OF DAIRY TECHNOLOGY

INTRODUCTION

Department of Animal Products Technology has been restructured into three independent departments, namely Department of Dairy Technology, Department of Meat Technology and Department of Leather & Fiber Technology. Earlier it was named as dairy section and was established in 1954 with the installation of a dairy plant from US-AID Program. Department of Dairy Technology presently, offers degree programme at both undergraduate and post graduate levels. There is a need for dairy processing industry, especially for the qualified professionals having managerial and professional skills. Dairy Technology graduates have job opportunities in the fields, like dairy industries, food industries, academia, research laboratories, government organizations and quality assurance programme etc.

Department of Dairy Technology has excellent laboratory facilities with modern equipments to fulfill experimental and research needs of M.Phil and Ph.D. students. The department has also established its own library with latest books on various disciplines of food science, dairy technology, dairy chemistry, microbiology and nutrition.

The Department is in the process of setting up a modern state of the art milk processing plant at its Ravi Campus, Pattoki. Dairy processing plant will provide practical training for dairy technology students, industry personals and other stake holders. The dairy plant was completed with the assistance of Govt. of Pakistan through Higher Education Commission with the cost of 109.815 million. In future funds will be available from training of short courses and commercial sale of milk and milk products. These funds will be utilized for further development of dairy plant and addition of value added dairy products.

Objectives:

- To impart advanced knowledge about milk and milk products as a major discipline in the field of dairy technology.
- To equip the students with recent knowledge and practical skills for processing, preservation, production and development of dairy products.
- To develop aptitude and demonstration skills for teaching and research.

FACULTY

Name: **Prof. Dr. Muhammad Ayaz**
Officer Incharge
Qualification: BV.Sc., M.S., Ph.D. (USA))
Area of Specialization: Dairy Tecnology

Name: **Dr.Imran Javed**
Associate Professor.
Qualification: B.Sc. (Hons.) Food Tech., M.Sc. (Hons.) Food Tech. ,
Ph.D.Microbiology.
Area of Specialization: Dairy Tecnology

Name: **Mr. Imtiaz Hussain**
Assistant Professor
Qualification: B.Sc. (Hons.) Food Tech., M.Sc. (Hons.) Food Tech.
Area of Specialization: Dairy Tecnology

Name: **Ms. Saima Inayat**
Lecturer
Qualification: DVM, M.Sc. (Hons.)
Area of Specialization: Dairy Tecnology

Name: **Mr. Muhammad Nadeem**
Lecturer
Qualification: B.Sc.(Hons.) Food Tech. M.Sc.(Hons.)Food Tech.
Area of Specialization: Dairy Tecnology

Name: **Mr. Saqib Manzoor**
Lecturer
Qualification: B.Sc. Chemical Engineering
Area of Specialization: Dairy Tecnology

Post Graduate Courses for M.Phil/Ph.D Dairy Technology

Course Code	Course Title	Credit Hours
DTEC – 1001	Advanced Dairy Technology	3(2-1)
DTEC – 1002	Milk Processing Techniques	3(2-1)
DTEC – 1003	Fluid, Fermented & Concentrated Dairy Products	4(3-1)
DTEC – 1004	Bio separation Processes in Dairy Products Technology	3(2-1)
DTEC – 1005	Advanced Dairy Microbiology	3(2-1)
DTEC – 1006	Analytical Techniques in Milk and Milk Products	3(2-1)
DTEC – 1007	Dairy Rheology	3(2-1)
DTEC – 1008	Automation & Dairy Process Engineering	3(2-1)
DTEC – 1009	Dairy Plant Layout & Design	3(3-0)
DTEC – 1010	Dairy Processing Equipment	3(2-1)
DTEC – 1011	Physico-Chemical Aspects of Milk Constituents	3(3-0)
DTEC – 1012	Packaging of Dairy Products	3(3-0)
DTEC – 1013	Chemistry of Milk Processing	3(2-1)
DTEC – 1014	Cleaning and Sanitation of Dairy Equipments	3(2-1)
DTEC – 1015	Total Quality Management Operations	3(3-0)
DTEC – 1016	Dairy Starter Cultures	3(2-1)
DTEC – 1017	Food and Industrial Microbiology	3(2-1)
DTEC – 1018	Food Process Engineering	3(3-0)
DTEC – 1021	Dairy Fermentation Technology	3(2-1)
DTEC – 1019	Special Problem	1(0-1)
DTEC – 1020	Seminar	1(1-0)

Developmental Project Completed

Higher Education Commission of Pakistan has funded the developmental project, Dairy Training and Development Center (DTDC) with the cost of Rs. 109.815 millions. This project has two components Installation of Dairy Processing Plant and Development of Dairy Training and Research Center. Continuous type milk processing plant from Gea Germany with 2000 lit/hrs capacity has been installed and will be operational in near future. This center also has batch pasteurizer and spray drier plant which are also in erection and developmental phase. The plants will be helpful for practical training of dairy technology students.



Snapshot of milk processing plant (Gea Germany)

Research Projects Accomplished

HEC approved research project “Development of a Process for the Production of Protein Isolate from Buffalo Milk”. worth Rs.39.12 million has been completed.

HEC funded start up research grant “Antimicrobial screening of *Ent. faecium* IJ-06 against common food borne pathogens” worth Rs. 0.5 million has been completed.

Research Priorities

- Improvement of milk handling and processing
- Improvement of meat handling and processing and optimum utilization of abattoir wastes.
- Development of appropriate technologies of value added livestock products meeting WTO standards.

FACULTY OF BIO-SCIENCES

M.Phil/ M.Phil leading to Ph.D/ Ph.D Offering Departments

Department of Pharmacology& Toxicology

Department of Physiology

Department of Anatomy & Histology

Department of Food Science & Human Nutrition (Also offering internationally validated PgDip in Food Safety & Controls)

DEPARTMENT OF PHARMACOLOGY & TOXICOLOGY



INTRODUCTION

This department was established in June 2002 along-with the establishment of University of Veterinary & Animal Sciences in continuation to the Pharmacology Section of the former College of Veterinary Sciences, Lahore. It is providing necessary information about Pharmacology and Toxicology of drugs to undergraduates and postgraduates. The courses at this level have been designed to develop understanding of Clinical Pharmacology of metabolism, endocrinology/ neuro-pharmacology, physiological chemistry, mechanism of their therapeutics uses. The research activities have been focused on problems of practical importance, like problems related to drug disposition and species variation of pharmacokinetic in indigenous animal species under local environmental conditions, macro and micro minerals estimation in animals, drug residues studies in food animals, drug resistance, pharmaceutical and chemical toxicity studies and effect of drugs on angiogenesis using different models. The studies are also carried out for screening and pharmacological evaluation of indigenous medicinal plants.

LABORATORY FACILITIES IN TERM OF EQUIPMENT/ TECHNIQUES:

We have well developed laboratories in the Department as Spectrophotometer, Laminar Flow hood, Autoclave, Fume Hood, Hot Air Oven, Centrifuge Machine, Egg Incubator, Computers, Stereo and Research Microscope, Double Distillation Apparatus, High Performance Liquid Chromatography, Digital Camera, Refrigerator, Deep Freezers, Distillation Apparatus, cable Networking, Animal House etc.

COURSES OFFERED

Course No.	Title	Credit Hrs.
PHRM 1001	General Pharmacology	4(3-1)
PHRM 1002	Advanced Pharmacology-I	4(3-1)
PHRM 1003	Advanced Pharmacology-II	3(2-1)
PHRM 1004	Pharmacokinetics	4(2-2)
PHRM 1005	Pharmaceutics	3(2-1)
PHRM 1006	Pharmacology of Central Nervous System	4(3-1)
PHRM 1007	Pharmacology of Autonomic Nervous System	4(3-1)
PHRM 1008	Renal and Reproductive Pharmacology	4(3-1)
PHRM 1009	Pharmacotherapy	4(3-1)
PHRM 1010	Chemotherapy	4(3-1)
PHRM 1011	General Toxicology	4(3-1)
PHRM 1012	Systemic Toxicology	4(3-1)
PHRM 1013	Chemical Pharmacology	3(2-1)
PHRM 1014	Pharmacology of Autacoids	3(2-1)
PHRM 1015	Clinical Drug Trials	4(3-1)
PHRM 1016	Advanced Readings in Pharmacology & Toxicology	1(1-0)
PHRM 1017	Problems in Clinical Pharmacology	2(0-2)
PHRM 1018	Pharmacology of Indigenous Medicinal Plants	4(3-1)
PHRM 1019	Special Problem	1(0-1)
PHRM 1020	Seminar	1(1-0)
PHRM 1021	Toxicology of Poisonous Plants	3(2-1)
PHRM 1022	Environmental Toxicology	4(3-1)
PHRM 1023	Mycotoxins and Zootoxins	3(2-1)
PHRM 1024	Aquatic Toxicology	4(3-1)

FACULTY

Name:	Prof. Dr. Muhammad Ashraf
Qualification:	Chairman (Tenure Track System) D.V.M., M.Sc. (Hons.), Ph.D. (USA)
Area of Specialization:	Pharmacokinetics drug Clinical Trials, Animal Toxicity Studies
Name:	Dr. Muhammad Ovais Omer
Qualification:	Assistant Professor D.V.M., M.Sc. (Hons.)
Area of Specialization:	Pharmacology, Toxicology, Herbal Medicines, Angiogenesis
Name:	Dr. Sualeha Riffat
Qualification:	Assistant Professor (Tenure Track System) M.Sc. (Hons.), Ph.D
Area of Specialization:	Pharmacokinetic, Bio-Equivalence
Name:	Dr. Aqeel Javeed
Qualification:	Assistant Professor (Tenure Track System) DVM, M.Sc. (Hons), Ph.D (China)
Area of Specialization:	Immuno Pharmacology
Name:	Mr. Muhammad Adil Rasheed
Qualification:	Assistant Professor D.V.M., M. Phil
Area of Specialization:	Angiogenesis, Herbal Medicines
Name:	Mr. Shehryar Afzal
Qualification:	Lecturer D.V.M., M.Sc. (Hons.)
Area of Specialization:	Pharmacokinetics and Drug dosage adjustment.

DEPARTMENT OF PHYSIOLOGY

INTRODUCTION

The Department of Physiology has multiple missions in the area of teaching and research with an emphasis on Veterinary Physiology and side by side on Human Physiology.

Teaching responsibilities of the Department include

- 1) Professional instruction leading to the Doctor of Veterinary Medicine Degree,
- 2) Undergraduate instruction leading to the Doctor of Pharmacy,
- 3) Graduate instruction leading to the Master of Philosophy and Doctor of Philosophy degrees in the discipline of Physiology.

Building of the department is situated in the Faculty of Biosciences. The department has two laboratories; one is specified for undergraduate experimentation and other for the postgraduate research. The undergraduate laboratory facilities are being shared with the Pharmaceutical sciences and Biochemistry Departments. The postgraduate laboratory is equipped with sophisticated equipments which are employed for physiology indices, serum biochemical and gastrointestinal studies.

Research Priorities

- 1) Evaluation and optimization of different prebiotics and probiotics
- 2) Evaluation and optimization of different antioxidants under various stressors.
- 3) Determination of different physiological indices.

Laboratory Facilities

Atomic Absorption Spectrophotometer
Clinical Chemistry Analyzer
Column Chromatograph
TLC

Double Distilled Water Apparatus
Spectrophotometer

pH Meter
Safety Cabinets

COURSE OFFERED

Course No.	Title	Credit Hrs.
PHYS 1001	General Principles of Physiology	4(3-1)
PHYS 1001	Physiology of Respiration and Cardiovascular System	4(3-1)
PHYS 1003	Physiology of nerve and Muscle	3(2-1)
PHYS 1004	Physiology of Digestion and Metabolism	4(2-2)
PHYS 1005	Endocrinology	3(2-1)
PHYS 1006	Physiology and Biochemistry of Rumen	4(3-1)
PHYS 1007	Physiology of Steroid Hormones	4(3-1)
PHYS 1008	Cell Physiology	4(0-4)
PHYS 1009	Physiological Techniques	4(3-1)
PHYS 1010	Enzymology	4(3-1)
PHYS 1011	Physiology of Kidney and Sweat Gland	4(3-1)
PHYS 1012	Comparative Hematology	3(2-1)
PHYS 1013	Physiology of Lactation	3(2-1)
PHYS 1014	Advanced Avian Physiology	4(3-1)
PHYS 1015	Clinical Physiology	4(1-3)
PHYS 1016	Comparative Endocrinology	4(4-0)
PHYS 1017	Clinical Physiology	4(3-1)
PHYS 1018	Molecular Physiology	4(2-2)
PHYS 1019	Special Problem	1(0-1)
PHYS 1020	Seminar	1(1-0)
PHYS 1021	Environmental Physiology	4(3-1)
PHYS 1022	Biophysics	4(4-0)
PHYS 1023	Camel Physiology	4(4-0)
PHYS 1024	Fish Endocrinology	4(3-1)
PHYS 1025	Exercise Physiology	4(3-1)

Faculty

Name:	Prof. Dr. Ijaz Ahmad
Qualification:	Dean
Area of Specialization:	Ph.D (USA) & Post Doc. (Canada) Gamete Physiology
Name:	Dr. Habib ur Rehman
Qualification:	Chairman/ Associate Professor
Area of Specialization:	Ph.D (Austria) Gut Physiology
Name:	Dr.Imtiaz Rabbani
Qualification:	Director (External linkages)
Area of Specialization:	Ph.D. (Germany)
Name:	Mr. Muhammad Quaid Zaman
Qualification:	Lecturer (E.O.L)
Area of Specialization:	D.V.M M.Sc. (Hons) Diabetology
Name:	Ms. Shahista Abbas
Qualification:	Lecturer (on contact)
Area of Specialization:	D.V.M, M.Phil Physiology
Name:	Mr. Muhammad Shahbaz Yousaf
Qualification:	Lecturer
Area of Specialization:	D.V.M, M.Sc (Hons) Stress Physiology
Name:	Mr. Aman Ullah
Qualification:	Lecturer (on study leave)
Area of Specialization:	Physiology

DEPARTMENT OF ANATOMY & HISTOLOGY



INTRODUCTION

The Department of Anatomy and Histology maintains under- and postgraduate laboratories; one each for Histology and Gross Anatomy. Additionally, the department also boasts of a well-equipped workshop for development of skeletons of different animals and runs Applied Anatomy Group (AAG) to bring students together for academic discussions. The department has provided articulated skeletons and histological slides of different species to the newly established universities all over Pakistan. Recently, the department has been approved for awarding M.Phil and Ph.D degrees.

COURSES OFFERED

Course No.	Title of Course	Credit Hours
ANAT 1001	Comparative Anatomy and Histology of Endocrine Glands	4(2-2)
ANAT 1002	Surgical Anatomy	3(1-2)
ANAT 1003	Neuroanatomy	4(2-2)
ANAT 1004	Comparative Anatomy of Reproductive System	3(2-1)
ANAT 1005	Systemic Anatomy and Histology of the Camel	4(3-1)
ANAT 1006	Advanced Histology –I	3(2-1)
ANAT 1007	Advanced Histology –II	4(2-2)
ANAT 1008	Histological And Histochemical Techniques	3(0-3)
ANAT 1009	Mammalian Embryology	3(2-1)
ANAT 1010	Experimental Embryology	3(0-3)
ANAT 1011	Techniques In Electron Microscopy	3(1-2)
ANAT 1012	Biological Ultrastructure	3(2-1)
ANAT 1013	Kinematics of the Equine Spine	4(2-2)
ANAT 1014	Canine Radiographic Anatomy	4(1-3)
ANAT 1015	Avian Anatomy and Histology	4(2-2)
ANAT 1019	Special Problem	1(0-1)
ANAT 1020	Seminar	1(1-0)

FACULTY

Name:	Prof. Dr. Ijaz Ahmad Dean, Faculty of BioSciences and Faculty of Life Sciences Business Management
Qualification:	DVM, M.Sc (Hons), MS (USA), Ph.D (USA), Postdoc (Canada)
Area of Specialization:	Reproductive Physiology/Biology
Name:	Mr. Saleem Qaisar Assistant Professor
Qualification:	DVM, M.Sc (Hons)
Area of Specialization	Gross Anatomy
Name:	Dr. Hafsa Zaneb (HEC Approved Supervisor) Assistant Professor (Tenure Track System)
Qualification:	DVM, M.Sc (Hons), Ph.D (Austria)
Area of Specialization	Functional Anatomy and Histology, Electromyography & Bio-Mechanics
Name:	Dr. Saima Masood Assistant Professor
Qualification:	DVM, M.Sc (Hons), Ph.D (China)
Area of Specialization	Histology & Cell Biology
Name:	Ms. Saima Ashraf Lecturer
Qualification:	DVM, Mphil
Area of Specialization	Histology & Histo-Chemistry
Name:	Mr. Mirza Muhammad Usman Lecturer
Qualification:	DVM
Area of Specialization	Anatomy & Histology
Name:	Ms. Sahar Ijaz Lecturer
Qualification:	DVM
Area of Specialization	Anatomy & Histology
Name:	Mr. Arshad Javid Teaching Assistant
Qualification:	DVM
Area of Specialization	Anatomy & Histology

DEPARTMENT OF FOOD SCIENCE & HUMAN NUTRITION



INTRODUCTION

The discipline of Human Nutrition existed as a part of Department of Food & Nutrition in the faculty of Animal Production & Technology since 2008 and was offering M. Phil & Ph.D. degree programs in Food and Nutrition. However, considering the widespread scope and degree programmes (B.S. (Hons.) Nutrition & Dietetics, PgDip Food Safety & Controls, M.Phil Food & Nutrition and Ph.D. Food & Nutrition) being offered by the discipline, the Syndicate of UVAS has created a separate Department “Food Science & Human Nutrition” in the Faculty of Bio-Sciences. The main aim of the department is to produce manpower in the field of food science, food safety, public health nutrition and dietetics. The department is offering one year internationally validated Postgraduate Diploma in “Food Safety and Controls” in collaboration with European Union funded TRTA-II Programme implemented by United Nations Industrial Development Organization (UNIDO) from this year. The department has developed separate infrastructure for successful running of international quality PgDip in Food Safety & Controls. The department is also offering M.Phil and Ph.D. degree programmes in Food & Nutrition along with under graduate degree programme i.e. “B.S. (Hons.) Nutrition & Dietetics”. The department has highly qualified teaching faculty, appropriate lab facilities and conducive environment. The students are professionally trained in the following areas under the umbrella of Food Science and Human Nutrition; Food Science, Food Safety & Quality, Clinical

Nutrition / Dietetics and Public Health Nutrition. The department has also collaborated with number of relevant well renowned institutions for practical training & internships of the students. The policy of the Department is to play its role in national progress, public health protection and poverty alleviation through food & nutrition sector development and producing knowledgeable manpower.

COURSES OFFERED AT M.PHIL & Ph.D. LEVEL

Course No.	Title	Credit Hrs.
FNUT-1001	Introduction to Human Nutrition	3(3-0)
FNUT-1002	Introduction to Food Science	3(2-1)
FNUT-1003	Biochemistry & Physiology of Human Body	3(2-1)
FNUT-1004	Protein Metabolism	3(2-1)
FNUT-1005	Energy Metabolism	3(2-1)
FNUT-1006	Vitamins & Minerals in Human Nutrition	3(2-1)
FNUT-1007	Dietetics	3(2-1)
FNUT-1008	Human Nutrition Disorders & Disease Prevention	3(2-1)
FNUT-1009	Community Nutrition	2(2-0)
FNUT-1010	Lab. Techniques in Human Nutrition	2(0-2)
FNUT-1011	Food Processing & Cooking Recipes	4(2-2)
FNUT-1012	Clinical Nutrition	4(3-1)
FNUT-1013	Maternal & Pediatric Nutrition	2(2-0)
FNUT-1014	Sports Nutrition	2(2-0)
FNUT-1015	Nutraceuticals /Functional Foods	2(2-0)
FNUT-1016	Research Methods in Human Nutrition	2(1-1)
FNUT-1017	Biotechnological Approaches in Food and Nutrition	3(2-1)
FNUT-1018	Food Safety and Quality Management	3(2-1)
FNUT-1019	Special Problem	1(0-1)
FNUT-1020	Seminar	1(1-0)
FNUT-1040	Seminar 1	1(1-0)

SCHEME OF STUDY FOR POSTGRADUATE DIPLOMA IN FOOD SAFETY & CONTROLS

Course No.	Title of Course	Credit Hrs.
First Semester		
FSAC-1001	Food of Animal Origin	3(2-1)
FSAC-1002	Food of Plant Origin	3(2-1)
FSAC-1003	Food Microbiology	3(2-1)
FSAC-1004	Food Safety Science	3(2-1)
FSAC-1005	Food Sampling Techniques and Analysis	3(1-2)
FSAC-1006	Food plant Sanitation and Hygiene	3(2-1)
	Sub.Total	18(11-7)
Second Semester		

FSAC-1007	Food Quality Management Systems	3(3-0)
FSAC-1008	Food Related Legal System	2(2-0)
FSAC-1009	Food Inspection, Investigation and Judgment	4(3-1)
FSAC-1010	Food Safety, Standards and Trade	2(2-0)
FSAC-1011	Compliance Strategies and Effective Enforcement	2(2-0)
FSAC-1012	Food Toxicology & Adulteration	3(2-1)
FSAC-1013	Specialist visit, report writing & professional skills	3(0-3)
	Sub. Total	19(14-5)
	Total Credit Hours	37 (25-12)

FACULTY

Name:	Dr. Muhammad Nasir
Qualification:	Officer Incharge / Assistant Professor (TTS)
Area of Specialization:	B.Sc. (Hons.), M.Sc. (Hons.), Ph.D. Functional Foods, Nutraceuticals, Food Product Development Efficacy & Safety Studies
Name:	Dr. Naureen Naeem
Qualification:	Assistant Professor (TTS)
Area of Specialization:	B.Sc. (Hons.), M.Sc. (Hons.), Ph.D. Composite Flours, Product Development Efficacy & Safety Studies
Name:	Dr. Sanaullah Iqbal
Qualification:	Assistant Professor (TTS)
Area of Specialization:	B.Sc. (Hons.), M.Sc. (Hons.), Ph.D Food Biotechnology, Prebiotics, Galacto-oligosaccharides Probiotics, Value-addition
Name:	Ms. Zahra Khan
Qualification:	Lecturer
Area of Specialization:	B.Sc., M.Sc., M.Phil Public Health Nutrition, Nutrient Metabolism, Clinical Nutrition
Name:	Ms. Frasat Rizwan
Qualification:	Lecturer
Area of Specialization:	B.Sc. (Hons.), M.Sc. (Hons.) Food Safety and Management System, Food Processing and Preservation
Name:	Ms. Amina Chughtai
Qualification:	Lecturer
Area of Specialization:	B.Sc., M.Sc., PGD Dietetics, Clinical Nutrition
Name:	Mr. Umar Bacha
Qualification:	Teaching Assistant
Area of Specialization:	B.Sc. (Hons.), M.Phil Biochemistry, Human Nutrition, Food Microbiology

DEPARTMENT OF FISHERIES & AQUACULTURE

MISSION STATEMENT:

To provide excellence in higher education, , research and development and extension services in the field of fisheries and aquaculture thus contributing to economic and social development of our country. We are aware that strong research provides basis for booming aquaculture. Hence, we are actively pursuing to become.

- A unique department with emerging global ideas and vision,

A seat of learning and research in fisheries and aquaculture, ecology, fish genetics and toxicology,

Facilities Available:

Under the development project 'establishment of Research and Training Facilities for Fisheries and Aquaculture at New Campus Bhuniky, Pattoki' funded by HEC, (32.652 Million) 2005-2007 a new faculty has been developed. The faculty has initiated the post graduate teaching at the newly established fisheries research and training centre, which has the following components: research labs (2), staff rooms (3), meeting room (1), hatchery building (1), feed room (1), diagnostics laboratory (1), fish ponds (20), (1), and residences (3).

Research Priorities:

- Development and improvement of saline water aquaculture
- Integrated fish farming, fisheries management in lakes and reservoirs
- Development and production of synthetic chemical analogs of reproductive hormones for induced breeding.
- Fish genetics and fish ecology

Linkages

Department of fisheries and Aquaculture has already established links with Aquaculture Wales (AqWa) university of Wales, Swansea, UK under HEC-British Council/ higher Education commission Joint higher Education Link Program (2004-2007).

SCHEME OF POSTGRADUATE CURRICULUM

M.SC. WETLAND MANAGEMENT (2-YEARS)

1 ST SEMESTER		
Course No.	Course Title	Courses Hours
WM-101	Introduction, Structure, Classification and Significant of Wetlands	3(3-0)
WM-102	General Biochemistry	3(2-1)
WM-103	Wetland Biological Communities	4(3-1)
WM-104	Biostatistics	3(2-1)
WM-105	Wetlands Governance and Regulatory Mechanisms	2(2-0)
	Sub Total	15 Hours
2 ND SEMESTER		
Course No.	Course Title	Courses Hours
WM-201	Wetlands Inventory Techniques and Development of Monitoring Program	3(2-1)
WM-202	Case studies in Wetlands Conservation in Pakistan	2(1-1)
WM-203	Flood Modelling and Management	3(2-1)
WM-204	Ecological Survey Designs and Sampling Techniques	3(2-1)
WM-205	Wetland Biodiversity	4(3-1)
WM-206	Gaps in Current Management of Wetlands and Associated Resources	1(1-0)
WM-207	Capacity Building Approach for NRM(Natural Resource Management)	1(1-0)
	Sub Total	17 Hours
3 RD SEMESTER		
Course No.	Course Title	Courses Hours
WM-301	Developing Work Plan/Proposal/Framework for NRM (Natural Resource Management) Projects	2(1-1)
WM-302	Wetland Management in Urban Environment	2(2-0)
WM-303	Wetlands Delineation	2(1-1)
WM-304	Approaches for Sustainable Wetland use	3(3-0)
WM-305	Formulation of Wetland Management Plan	2(2-0)
WM-306	Monitoring and Evaluation Procedure for NRM(Natural Resource Management) Projects	2(1-1)
WM-307	Need Assessment Mechanisms for NRM	1(1-0)
WM-308	GIS	2(2-0)
	Sub Total	16 Hours
4 TH SEMESTER		
Course No.	Course Title	Courses Hours
WM-401	Climate Change	2(2-0)
WM-402	Biological Conservation	3(3-0)
WM-403	Wetlands Need Assessment Techniques	2(1-1)
WM-404	Wetland Conservation and Management	3(3-0)
WM-405	Internship/Research Project	6(0-3)
	Sub Total	16 Hours
	Total	64

GENERAL INFORMATION

Degree:	M.Sc. Wetland Management
Time of admission:	August –September every Year
Requirement :	B.Sc (Zoology, Botany and Chemistry)
Type of teaching and: Examination system	Semester

FACULTY POSITION

DEPARTMENT OF FISHERIES AND WILDLIFE

1. Dr. Muhammad Ashraf	Chairman
2. Prof. Dr. Sharif Muhgal	Subject Specialist
3. Mr. Yamin Janjua (On study Leave)	Assistant Professor
4. Dr. Noor Khan	Assistant Professor
5. Mr. Muhammad Hafeez-ur-Rehman	Assistant Professor
6. Dr. Sumaira Abbas	Assistant Professor (TTS)
7. Mr. Fayyaz Rasool	Lecturer

DEPARTMENT OF WILDLIFE & ECOLOGY

INTRODUCTION

From habitat fragmentation to car fatalities, invasive species to development, wildlife around us is facing a number of serious threats to its survival. We're fighting multifaceted national and worldwide threats to biodiversity, the most important of which is the global problem of climate change - possibly the greatest extinction risk in history. It seems that humans have set in motion the sixth mass extinction event in the history of earth.

University of Veterinary and Animal Sciences (UVAS) while realizing the importance of biodiversity took the bold initiative to strengthen institutional framework for scientific study of natural resources. In a country where literacy rate is appallingly low, and education system is flexible and unstructured, incorporating wildlife education into this system presented a great challenge. UVAS Department of Wildlife & Ecology was established in 2002 with the mandate to conserve country's unique natural diversity in a manner that is complementary to the future needs. The research and development of this department is focused on protection, preservation, perpetuation and judicious control of rare species and their environment.



We believe that the welfare of human beings is deeply linked to nature - to the existence of a vast diversity of wild animals and plants. Because diversity has intrinsic value, and because its loss impoverishes society, we are working to secure a future for all species, great and small, hovering on the brink of extinction. We do so through science with a focus on protecting the lands, waters, and climate that species need to survive, as without habitat there is no wildlife it is that simple.

Mission

Our mission is to conserve natural heritage of the country, dynamism of ecosystems and species threatened with risk of extinction. Since baseline information on most of the species and habitats is fragmentary, we are trying to develop an understanding of concepts and issues relevant to wildlife management in Pakistan. We aim to apply this knowledge for analyzing, designing and implementing wildlife management programmes in the country. We impart professional level skills to students to

apply their knowledge for conserving endangered species and manage fragmented and disturbed habitats. We also train them to develop skills in sourcing information, analyzing key points and synthesizing an integrated report on key issues associated with the conservation of habitats and species under consideration. We inculcate in them an ability to understand wider implications of wildlife management and a sense to integrate information from across disciplines. Not only professionally, we also refine their personality by imparting skills in both written and oral communication.



Linkages

We firmly believe that adverse effects of climate change, habitat loss and resulting biodiversity loss can only be minimized if not stopped completely by networking of Higher Education Institutions of the world engaged in biodiversity conservation. Department of Wildlife and Ecology has established link with Center for Environment and Society, School of Biological Sciences, University of Essex, UK in second round of Higher Education Commission-British Council-Joint Link Program (HEC-BC-JHELP). It was one of the 35 successful links for which more than 200 applications were received from Higher Education Institutions (HEI) of Pakistan. Establishment of DelPHE (Developing partnership in Higher Education) link is another great achievement of this Department. The second round of DelPHE funding attracted more than 300 applications from across the globe and of the 13 successful applications from Asia; one was from Department of Wildlife and Ecology. The Department is also in process to develop MoU with Bat Ecology and Bioacoustic Laboratory, University of Bristol, UK. Aim and objectives of this programme are:

- Internationally recognized collaborative research studies and publications
- Development of new courses and revision of existing courses relevant to country's need
- Professional development and training of faculty
- Improved networking and exchange of information between partner HEIs
- Improved management and administration within HEI in the focus countries

Research Projects

1. Non-invasive Monitoring of Carnivores: Advancing Methodology and Ecological Knowledge (Norwegian Research Council).
2. Assessment of Population of Large Carnivores and Their Conflicts with Humans in the Yarkhun Valley of the Chitral District (Snow Leopard Network).
3. Population Assessment of the Himalayan Brown Bear and its Conflicts with Human in Broghil National Park (International Bear Association).
4. Conservation of Himalayan Lynx in Chitral Districts (Panthera).
5. Biodiversity and Conservation Biology of Bats in Selected Protected Areas of Pakistan (HEC Funded).
6. Diversity and Conservation Education for Bats in Margalla Hills National Park (Rufford Small Grants Organization, UK).
7. Developing sustainable Livelihoods for Communities in a Ramsar Site: Taunsa Barrage Wetlands Complex, Pakistan.
8. Biodiversity and conservation biology of bats in some selected protected areas of Pakistan (HEC Funded).

Development Projects:

1. Establishment of Research and Training Facilities for Wildlife and Ecology at New Campus Bhuniky, Pattoki. Funded by HEC, (38.728 Million) 2006-2008. (Completed)
2. Establishment of Geographic Information System (GIS) and Remote Sensing Laboratory at New Campus, UVAS, Lahore. (Submitted)

Research Out Put:

Research Papers in National Research Journals since 2005 = 25

Research Papers in International Research Journals since 2005 = 13

Total = 38

Impact Factor since 2005 = 20

Research Papers Presented in International Conferences = 12

Number of Post-graduate Students Produced since 2007 = 12

COURSES OFFERED

Course code	Title	Credit hrs
WECO 1001	Wildlife of Pakistan	3(3-0)
WECO 1002	Biological Diversity	3(2-1)
WECO 1003	Advanced Mammalogy ^a	3(3-0)
WECO 1004	Laboratory and Field Techniques in Mammalogy	2(0-2)
WECO 1005	Advanced Ornithology ^a	3(3-0)
WECO 1006	Laboratory and Field Techniques in Ornithology	2(0-2)
WECO 1007	Advanced Herpetology ^a	2(2-0)
WECO 1008	Insect Morphology, Physiology and Ecology	3(2-1)
WECO 1009	Insect Classification and Pest Management	3(2-1)
WECO 1010	Conservation Biology – I	4(2-2)
WECO 1011	Conservation Biology – II	3(3-0)
WECO 1012	Fundamentals of Environmental Science	4(4-0)
WECO 1013	Environmental Impact Assessment	3(3-0)
WECO 1014	Wildlife Management and Conservation ^a	2(1-1)
WECO 1015	Modern Concepts in Habitat Ecology	3(3-0)
WECO 1016	Population Ecology	3(3-0)
WECO 1017	Community Ecology	2(2-0)
WECO 1018	Plant Community Ecology	4(4-0)
WECO 1019	Special Problem	1(0-1)
WECO 1020	Seminar	1(1-0)
WECO 1021	Ecosystem and Evolutionary Ecology	3(3-0)
WECO 1022	Animal Behavior	2 (2-0)
WECO 1023	Behavioral Ecology	3(3-0)
WECO 1024	Biogeography	2 (2-0)
WECO 1025	Geoinformatics for Resource Mapping and Analysis	4(2-1)
WECO 1026	Introduction to Forestry & Natural Resource Conservation	3(3-0)
WECO 1027	Eco-tourism Planning and Management	3(3-0)
WECO 1028	Range Management	3(2-1)
WECO 1029	Park Management^a	2(2-0)
	Thesis Research	

^aGeneral courses for M. Sc. Zoology/Deficiency courses for DVM Graduates

FACULTY

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Dean

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Lecturer

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FACULTY OF LIFE SCIENCES BUSINESS MANAGEMENT



INTRODUCTION

Faculty of Life Sciences Business Management is one of the emerging Faculty of University of Veterinary and Animal Sciences Lahore. This Faculty has a vision to promote business Management education in Life Science fields. This Faculty has been offering various undergraduate and postgraduate courses. The MBA (Life Sciences) degree offered by this faculty is one of the Landmark program first of it's kind in Pakistan. In addition to this, for capacity building of Livestock sector this faculty has organized leadership Development Program. Similarly training programs for Human Resource Development and arranging conferences and seminars is a routine activity of this faculty. Today's business environment demands managerial skills and business orientation of professionals working in Life Sciences fields. Keeping in view this aspect, Faculty of Life-Sciences Business Management has been entrusted to produce these required professionals. In future this faculty has planned to offer postgraduate programs in statistics in collaboration with GCU and KEMU, Lahore. The IT department of FLSBM is training the students of various degree programs and faculty members in computer related skills.

Faculty

Prof. Dr. Muhammad Aleem Dean (FLSBM) Ph.D., M.Sc.(Hons.), DVM

Dr. Maqsood Ahmad Assistant Professor

M.Sc (Hons.) Agriculture Economics

Dr. Rana Muhammad Ayyub Assistant Professor/ Program Coordinator MBA (Life-Sciences)DVM, M.Sc. (Hons.) MBA (MarketingL PGD (IBA)

Name:	Dr. Aman Ullah Lecturer
Qualification:	DVM, M.Sc. (Hons.), MBA(HRM)
Name:	Farhan Masud Assistant Professor
Qualification:	M.Sc. (Computer Science)
Name:	Liaqat Ahmad Assistant Professor
Qualification:	M.Sc., M.Phil.(Statistics)
Name:	Tariq Mehmood Bajwa Lecturer
Qualification:	M.Sc. (Statistics) (on study leave)
Name:	Bilal Ahmad Lecturer
Qualification:	M.Sc., M.Phil.(Statistics)
Name:	Muhammad Khawar Bashir Lecturer
Qualification:	M.Sc. (Computer Science)

DEPARTMENT OF STATISTICS & COMPUTER SCIENCE

Courses offered

Course No.	Title	Degree
STAT-1001	Experimental Statistics	(M. Phil.)
STAT~ 1002	Experimental Design	(Ph.D.)

INSTITUTE OF BIOCHEMISTRY AND BIOTECHNOLOGY



INTRODUCTION

Institute of Biochemistry and Biotechnology (IBBt) was established in September 2009 after the up gradation and union of department of Molecular Biology & Biotechnology and department of Biochemistry. Currently the undergraduate (B.S.Hons. Biotechnology and Informatics) and postgraduate degrees (M.Phil and Ph.D) in the discipline of Molecular Biology & Biotechnology, Biochemistry and Bioinformatics are going on with more than 250 strength of students.

This success story will be incomplete if it will not be mentioned and recognized the contributions of highly qualified and dedicated team of teachers and scientists of our institute, working flat out 24 hours a day.

- Molecular Biology and Biotechnology
- Biochemistry
- Bioinformatics

Molecular Biology is a branch of biology that deals with the formation, structure and function of macromolecules essential to life such as nucleic acids and proteins, including their role in cell replication and the transmission of genetic information. On the other hand "Biotechnology" is the deliberate manipulation of DNA molecules to produce commercial products from living organisms. Additionally biochemistry helps a lot in understanding the chemical basis, structure, functions and mechanism of biomolecules while Bioinformatics tools provides up-to-date descriptions, ranging from the analysis of sequence, literature, and functional data to the function and evolution of organisms. Establishment of institution (IBBt) is a land mark that will go a long way to enhance the quality of Research, Academics and technology development in the field of molecular biology and genetics of livestock, human and microbes to the benefit of Pakistani nation. Through high throughput technologies such as Microarray DNA Chip Technology, whole Genome Analyzer and DNA sequencing facilities, faster and rapid gains in identification and selection of superior individuals in respect of disease resistance, better performance and disease control can be accomplished. To explore the molecular basis for life processes through chemical and physical studies on the structure and behavior of complex molecules found in biological materials, biochemistry has emerged as a highly creative and successful discipline. Through characterizing the structure, function, assembly, and dynamic changes of macromolecules, biochemists seek to answer fundamental questions about living processes and to bring significant improvements in the quality of life. Diverse advances have converged to allow the development of recombinant DNA technology for better understanding of metabolic processes and expression of genetic information that assure dynamic advancement in the field of biochemistry. In addition the institute will greatly contribute to improve UVAS ranking within Pakistan and worldwide.

At present large number of students are undertaking their M. Phil and Ph.D. studies in the field of Molecular Biology & Biotechnology, Biochemistry and Bioinformatics. The Institute is also acquiring latest technologies and equipment for world class research in the

field of Molecular Biology, Genomics, Proteomics and Applied Biotechnology to bring about a revolution in livestock as well as medical fields.

IBBT LABS

- Molecular Biology and Genomics Lab



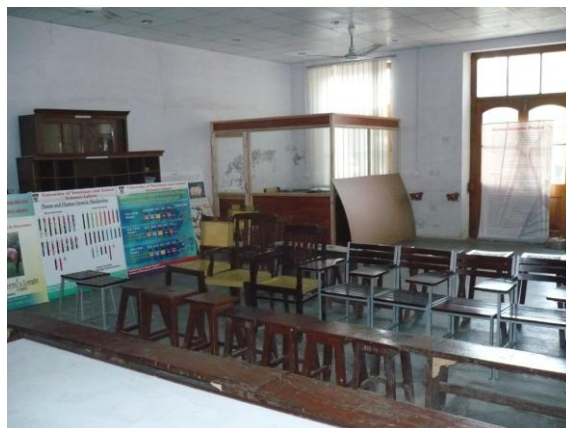
- Bioinformatics Lab



DIAGNOSTICS LAB



- Under graduate Lab



HI-TECH,SEQUENCING AND GENOTYPING ,REAL TIME PCR AND MICROARRAY LAB



FACILITIES AVAILABLE AT IBBT

Different labs of IBBT are equipped with following instruments.

- Illumina Bead Xpress System (Microarray System)
- ABI prism 3130xl Genetic Analyzer
- ABI 7700 Real Time PCR
- Gel Documentation System
- Thermocycler
- Gel Apparatus
- PAGE Apparatus
- Water Bath Shaker
- Gradient Centrifuge Machine
- Micro centrifuge
- Microfuge
- Cell Culture Incubator
- Bio Safety Cabinet
- Micropipettes (5 Sets)
- Autoclave



MICROARRAY SYSTEM



**HIGH TECH DNA
SEQUENCER**



REAL TIME PCR

LARGEST DNA BANK:

IBBt is proud to have the largest DNA bank of the country containing the genome of pure breeds of cattle, buffalo, sheep, goat, camel, horses and dogs from all over the country. We have also the genome of superior/champion animals. Beside this we have comprehensive number of DNA samples of human suffering from different genetic disorders. The strengthening of DNA Bank of IBBt is continuously going on by frequent sampling country wide.

RESEARCH PRIORITIES

Molecular Biology & Biotechnology Division

Medical Genetics and Forensic Sciences
Genetic Diversity and its Impact on Phenotypic Characteristics
Recombinant DNA Technology and Regenerative Medicine

Biochemistry Division

Bioconservation of Agriculture and Animal Wastes to Useful Products
Production, Purification and Characterization of Enzymes
Biochemical Characterization of Microorganisms

Bioinformatics Division

Application and Development of Bioinformatic Tools
Data Interpretation and Analysis

COURSES OFFERED BY IBBt IN DIFFERENT DISCIPLINES

IBBt offered Post Graduate (M.Phil/Ph.D) Morning and Evening Programme in Molecular Biology and Biotechnology, Biochemistry and Bioinformatics. The detail of courses is as follow

COURSES OFFERED FOR M.Phil/Ph.D IN MOLECULAR BIOLOGY AND BIOTECHNOLOGY

COURSE NO.	TITLE OF COURSE	Credit Hours
MBBT 1001	Principles of Biotechnology	4(3-1)
MBBT 1002	Molecular Cell Biology	4(3-1)
MBBT 1003	Molecular Biology	4(3-1)
MBBT 1004	Bioinformatics	2(2-0)
MBBT 1005	Cell Chemistry	4(3-1)
MBBT 1006	Gene Manipulation and Genetic Engineering	4(3-1)
MBBT 1007	Cell & Tissue Culture	3(2-1)
MBBT 1008	Basic Molecular Biology Research Techniques	3(2-1)
MBBT 1009	Advanced Molecular Biology Research Techniques	3(2-1)
MBBT 1010	Essentials of Molecular Genetics	4(3-1)
MBBT 1011	Bioethics	2(2-0)
MBBT 1012	Fermentation Technology	3(2-1)
MBBT 1013	Immunogenetics	3(3-0)
MBBT 1014	Molecular Medicine and Biopharmaceuticals	4(3-1)
MBBT 1015	Molecular Drug Development	4(3-1)
MBBT 1016	Advanced Bio-Nanotechnology	4(3-1)
MBBT 1019	Special Problem	1(0-1)
MBBT 1020	Seminar	1(1-0)

COURSES OFFERED FOR M.Phil/Ph.D IN BIO-CHEMISTRY

Course Code	Title of the course	Credit Hours
BIOC-1001	Principles of Biochemistry (M. Phil Deficiency)	3(3-0)
BIOC-1002	Advanced Biochemical Techniques (Ph. D Deficiency)	3(0-3)
BIOC-1003	Enzyme Biotechnology	4(3-1)
BIOC-1004	Environmental Biochemistry	3(3-0)
BIOC-1005	Skills and Research Methodology	1(1-0)
BIOC-1006	Biological Oxidation Reduction	2(2-0)
BIOC-1007	Biochemistry of Vitamins And Minerals	4(3-1)
BIOC-1008	Principles of biochemical engineering	2(2-0)
BIOC-1009	Biochemistry of chemical regulators	2(2-0)
BIOC-1010	Recombinant DNA Technology and Gene Manipulation	3(2-1)
BIOC-1011	Blood and Immunochemistry	2(2-0)

BIOC-1012	Industrial Biotechnology	4(1-3)
BIOC-1013	Bioinformatics	2(2-0)
BIOC-1014	Molecular Cell Biology	3(3-0)
BIOC-1015	Medical biochemistry	3(3-0)
BIOC-1016	Current topics in biochemistry and molecular biology	1(1-0)
BIOC-1017	Genes, genomes and evolution	3(3-0)
BIOC-1018	Biochemistry of cancer	2(2-0)
BIOC-1019	Special Problem	1(0-1)
BIOC-1020	Seminar	1(1-0)
BIOC-1021	Biochemistry of Carbohydrates	3(3-0)
BIOC-1022	Biochemistry of Proteins	3(3-0)
BIOC-1023	Biochemistry of Lipids	3(3-0)
BIOC-1024	Biochemical Techniques	4(0-2)

COURSES OFFERED FOR Ph.D IN BIOIMFORMATICS

Course No.	Title	Credit Hrs.
	Mathematics	
* MTH-101	Calculus & Analytical Geometry	3(3-0)
* MTH-202	Discrete Mathematics	3(3-0)
*MTH-302	Business Math & Statistics	3(3-0)
*MTH-401	Differential Equations	3(3-0)
* MTH-501	Linear Algebra	3(3-0)
MTH-1004	Advanced Calculus	3(3-0)
	Statistics	
***STA-301	Statistics and Probability	3(3-0)
BINF-1001	Statistical Methods in Computational Biology	3(3-0)
	Computer Science	
**CS-201	Introduction to Programming	3(3-0)
**CS-304	Object Oriented Programming	3(3-0)
**CS-301	Data Structure	3(3-0)
**CS-403	Database Management Systems	3(3-0)
**CS-502	Fundamentals of Algorithms-1	3(3-0)
**CS-607	Artificial Intelligence	3(3-0)
CS-7001	Advanced Algorithm Analysis	3 (3-0)
CS-7002	Advanced Software Engineering	3 (3-0)
CS-7003	Advanced DBMS	3 (3-0)
CS-7004	Simulation and Modeling	3 (3-0)
CS-7005	Machine Learning	3 (3-0)
CS-7006	Data Mining	3 (3-0)
CS-7007	Computational Biology	3 (3-0)
CS-7008	Knowledge based systems	3 (3-0)
CS-7009	Computer Vision	3 (3-0)
CS-7010	Design Patterns	3 (3-0)

CS-7011	Introduction to Soft Computing	3 (3-0)
CS-7012	Artificial Neural Networks	3 (3-0)
	Biology	
****BTIF -101	Introduction to Biology	3(3-0)
****BTIF-102	Essentials of Genetics	3(2-1)
****BTIF-201	Cellular Biology	3(2-1)
****BTIF-302	Molecular Biology	4(3-1)
****BTIF-501	Genomics	3(3-0)
****BTIF-502	Proteomics	3(3-0)
****BTIF-601	Bioinformatics Methods	3(2-1)
****BTIF-602	Microbial Genetics	3(2-1)
	Bioinformatics	
MBBT 1003	Molecular Biology	4(3-1)
MBBT 1004	Bioinformatics	2(2-0)
MBBT 1006	Gene Manipulation and Genetic Engineering	4(3-1)
MBBT 1010	Essential of Molecular Genetics	4(3-1)
BINF1001	Bioinformatics I (Essentials of Genome Informatics)	3(2-1)
BINF 1002	Bioinformatics II (Structural Genome Informatics)	3(2-1)
BINF 1003	Bioinformatics III (Computational Functional Genomics and Systems Biology)	3(3-0)
BINF 1004	Algorithms for Computational Biology	3(3-0)
BINF 1005	Bioinformatics and Drug Discovery	4(3-1)
BINF 1006	Bioinformatics Platform Development	4(3-1)
BINF 1007	Microarray Data Analysis	4(3-1)

Degree Program

For M.Phil/ Ph.D.

(Forensic Sciences)

Introduction

Forensic sciences or forensics is the application of various scientific methods and principles to investigate criminal and civil actions, which are of interest to the legal systems. All the clues collected from a crime scene are analyzed by forensic scientists in a crime laboratory and are converted into evidences worth producing in legal courts. Physical evidences may include body fluids like blood and saliva, hair, impressions of tyres and shoes, finger prints and foot prints are also valuable evidences. In civil cases such as proving the validity of a signature, forensic sciences can be applied. The forensic scientists work in close quarter with the police to provide information in solving a case.

It's easier to solve crime today than it was 50 years ago, because of the advances that have been made in the field of science, or to be more specific, forensic science. In fact, new and innovative crime solving techniques are being introduced by the day to help law enforcement officers solve cases that are baffling at first. Forensic science helps to establish the nature of the crime. There are some crimes that are accidents and others that are by design. Looking at the evidence through a forensic microscope allows cops and others in the law enforcement area to determine if the crime was a murder, suicide or other form of accidental death. In the case of a murder, forensic evidence tells them if the crime was accidental or carried out in cold blood. Forensic science is also used to investigate and solve burglaries, drug offenses, arsons and automobile accidents.

Forensic science helps to remove personal prejudices. Forensic science forces law enforcement officers to look only at the evidence and not follow cases on their instincts or feelings. It thus provides a quantifiable way to solve crime, one that can be used to provide cold, hard evidence that is more acceptable in courts and to juries in convicting the guilty or acquitting the innocent.

Forensic science brings to light evidence that is not visible to the naked eye. Forensic science uses a number of techniques to help discover evidence that is not immediately visible. So

even in cases where there seems to be no evidence at all, a minute fingernail or a strand of hair can help nail the criminal. The methods and techniques used are detailed and accurate, and if done carefully and correctly, can help recreate the crime in laboratory settings and solve the crime.

And last and most important of all, it helps solve the crime. Using details such as the time of death and other physical evidence, forensic science can prove conclusively if a person is guilty of the crime or innocent as they claim. If used wisely and correctly, forensic science can help convict the guilty and acquit the innocent, both of which are equally important when someone is being prosecuted for a crime. Forensic science is thus a great comfort to those who have been affected by the crime and a valuable tool for the criminal law and justice departments in fighting crime and bringing it to book. This degree program has been designed to provide skills, knowledge and competencies to the students to work effectively in the field of forensic sciences.

SCHEME OF STUDY

Following is the overall scheme of study for M.Phil and Ph.D in Forensic Sciences.

Sr. No.	Course No.	Title	Credit Hrs.
1	FS-1001	Principles of Forensic Science	3(3-0)
2	FS-1002	Mammalian Molecular Biology	3(2-1)
3	FS-1003	Biological Evidence and Serology	3(2-1)
4	FS-1004	Forensic Analysis of DNA	3(2-1)
5	FS-1005	Drug Biotransformation & Molecular Mechanism of Toxicology	4(3-1)
6	FS-1006	Advanced Criminalistics	3(3-0)
7	FS-1007	Blood Distribution and Spatter	3(3-0)
8	FS-1008	Forensic Toxicology	4(3-1)
9	FS-1009	Forensic Anthropology	4(3-1)
10	FS-1010	Forensic Genetics	3(3-0)
11	FS-1011	Forensic Immunology	3(3-0)
12	FS-1012	Forensic Medicine	4(4-0)
13	FS-1013	Environmental Forensics	3(3-0)
14	FS-1014	Forensic Entomology	3(3-0)
15	FS-1015	Literature Survey	2(2-0)
16	FS-1016	Laboratory QA/QC	2(1-1)
17	FS-1019	Special Problem	1(0-1)
18	FS-1020	Seminar	1(1-0)

FACULTY OF IBBt

Name:	Prof. Dr.Tahir Yaqoob Director
Qualification:	Ph.D & Post Doc (USA) & (Canada).
Area of Specialization:	Animal Breeding/ Animal Genomics/ Functional Genomics
Name:	Dr. Abu Saeed Hashmi Subject Specialist
Qualification:	Ph.D
Area of Specialization:	Biochemistry & Fermentation Biotechnology
Name:	Dr. Atif Hanif Associate Professor
Qualification:	Ph.D (Greece)
Area of Specialization:	Molecular Biology & Biotechnology
Name:	Mr. Shahid Abbas Assistant Professor
Qualification:	M.Sc
Area of Specialization:	Biochemistry
Name:	Dr. Ali Raza Awan Assistant Professor
Qualification:	Ph.D
Area of Specialization:	Molecular Biology
Name:	Dr. Muhammad Wasim Assistant Professor
Qualification:	Ph.D (Australia)
Area of Specialization:	Molecular Biology in Cancer/ Molecular Cloning
Name:	Dr. Asif Nadeem Assistant Professor
Qualification:	Ph.D.
Area of Specialization:	Molecular Biology
Name:	Dr. Tayyab Hussain Assistant Professor
Qualification:	Ph.D.
Area of Specialization:	Biochemistry

Name: **Mr. Tanveer Hussain**
Lecturer
Qualification: M. Phil
Area of Specialization: Animal Breeding & Genetics

Name: **Ms. Rahat Naseer**
Lecturer (on E.O.L)
Qualification: M. Phil
Area of Specialization: Biochemistry

Name: **Ms. Saeeda Awais**
Lecturer
Qualification: M. Phil
Area of Specialization: Molecular Biology

Name: **Ms. Sehrish Firyal**
Lecturer
Qualification: M.Sc (Hons)
Area of Specialization: Agr. Biotechnology

Name: **Mr. Muhammad Asif**
Lecturer
Qualification: M. Phil
Area of Specialization: Biotechnology

Name: **Mr. Zahid Mushtaq**
Lecturer
Qualification: M. Phil
Area of Specialization: Biochemistry

Name: **Ms. Faiza Masood**
Lecturer
Qualification: M. Sc
Area of Specialization: Biotechnology

Name: **Ms. Shagufta Saeed**
Lecturer
Qualification: M. Phil
Area of Specialization: Biochemistry

Name: **Ms. Asma Waris**
Lecturer
Qualification: M. Phil
Area of Specialization: Biochemistry

INSTITUTE OF PHARMACEUTICAL SCIENCES (IPS)
M. Phil (Pharmaceutics)



MISSION STATEMENT

The mission of the Institute of Pharmaceutical Sciences at the University of Veterinary & Animal Sciences is to provide excellence in pharmacy education and emerging related disciplines, and, to prepare highly skilled leaders and innovators excelling in pharmacy practice, education, research and public service.

Introduction

The Institute of Pharmaceutical Sciences (IPS) endeavors to accomplish and materialize the vision for provision of quality pharmacy education in Pakistan. The education system at IPS is not only sensitive to the local needs of Pakistan but lives up to the international standards so that the students passing out from IPS contribute to the latest developments in the profession through research, practice and education.

The Institute of Pharmaceutical Sciences is significantly advanced in providing exemplary education to pharmacy students. To meet the human resource needs of the

country in the areas of Clinical Pharmacy, Community Pharmacy, Pharmaceutical Technology, Industrial Pharmacy, Pharmaceutical Microbiology and Molecular Biology a comprehensive course is designed for award of M.Phil degree in Pharmaceutics. This course covers all the topics recommended by the Pharmacy Council of Pakistan and Higher Education Commission in addition to other new courses which will be offered from time to time. The faculty of the Institute of Pharmaceutical Sciences includes personnel with diverse practical professional experience including industrial pharmacy, hospital and clinical pharmacy, community pharmacy, regulatory affairs etc. The pharmaceutical industry, hospital and retail pharmacies constitute the major portion of the application of pharmaceutical sciences in Pakistan and the personnel developed in different disciplines of pharmaceutics shall be capable of serving the national needs related to all these areas.

The main research interests of the Institute include:-

- Biopharmaceutics and bioequivalence studies.
- Formulation development and pharmaceutical technology beneficial for the pharmaceutical sector.
- Pharmacy practice for equipping the postgraduates with skills to analyze the health care needs of the country and developing their research skills.
- Application of molecular biology and biotechnology in pharmacy.

Facilities

Multimedia fitted air conditioned class rooms, computer lab with internet facility and a library with latest books / journals. Modern labs have been established equipped with following the necessary instruments.

Research Priorities

- Formulation design and development of solid dosage forms and their characterization
(In-vitro / In-vivo)
- Modified release / Novel drug Delivery Systems using drug carriers like Micro particles
Nanoparticles
Multiple emulsions
- Designing of emulsion-based formulations

- Transdermal Drug Delivery System (TDDS) including patches and gels.
- Cosmeceuticals
- Bioavailability/ bioequivalence and clinical pharmacokinetic studies.
- Pharmacy practice areas including Community Pharmacy, Hospital Pharmacy, Clinical Pharmacy, Dispensing and Patient care services.
- Screening and formulation development of Indigenous medicinal plants and pharmaceutical dosage forms.
- Pharmaceutical stability studies including microbiological studies



**SCHEME OF STUDIES
FOR
M.PHIL. PHARMACEUTICS**

COURSE NO.	TITLE OF COURSE	CREDIT HOURS
PHCU1001	Hospital and Clinical Pharmacy	4(3-1)
PHCU1002	Advanced Pharmaceutics	4(2-2)
PHCU1003	Applied Biopharmaceutics	4(2-2)
PHCU1004	Dispensing and Community Pharmacy	4(3-1)
PHCU1005	Advanced Pharmaceutical Microbiology	3(2-1)
PHCU1006	Formulation and Product Development	4(3-1)
PHCU1007	Pharmaceutical Management and Marketing	1(1-0)
PHCU1008	Pharmaceutical Molecular Biology and Biotechnology	4(3-1)
PHCU1009	Cosmeceuticals and Nutraceuticals	3(2-1)
PHCU1010	Advanced Quality Assurance Techniques	4(3-1)
PHCU1011	Novel Drug Delivery System	3(2-1)
PHCU1012	Pharmacy Regulations	3(3-0)
PHCU1013	Research Methodology and Bioethics	3(3-0)
PHCU1014	Pharmaceutical Analysis and Instrumentation	3(1-2)
PHCU1015	Veterinary Pharmacy	3(2-1)
PHCU1016	Alternative Medicines	3(2-1)
PHCU1017	Software Applications in Pharmacy	2(0-2)
PHCU1019	Special Problem	1(0-1)
PHCU1020	Seminar	1(1-0)
	Research and Thesis	10

FACULTY

A strongly committed team of professional faculty within the IPS of UVAS aims to prepare students to be leaders in the various disciplines of the pharmacy profession.

Name: Dr. Farzana Chowdhary
Director
Qualification: B. Pharm, M. Phil, Ph. D
Area of Specialization: Pharmaceutical Chemistry

Name: Dr. Sonia Khiljee
Assistant Professor (TTS)
Qualification: B. Pharm, B.Sc, M. Phil, Ph. D
Area of Specialization: Pharmaceutics

Name: Ms. Huma Rasheed
Assistant Professor
Qualification: B. Pharm, M. Phil
Area of Specialization: Pharmaceutics/Pharmacy Practice (Hospital, Community and Clinical Pharmacy), Clinical Trials.

Name: Mr. M. Irfan Masood
Assistant Professor
Qualification: B. Pharm, M. Phil
Area of Specialization: Pharmaceutics

Name: Mrs. Shaista Qamar
Assistant Professor
Qualification: B. Pharm, M. Phil
Area of Specialization: Pharmaceutical Chemistry/Quality Control and Quality Assurance

Name: Malik Allah Bukhsh Awan
Lecturer
Qualification: B. Pharm, M. Phil
Area of Specialization: Molecular Biology & Biotechnology/Hospital & Clinical Pharmacy

Name: Mr. Muhammad Usman
Lecturer
Qualification: B. Pharm, M. Phil
Area of Specialization: Pharmacology / Pharmacokinetic studies

Name: Syed Muneeb Anjum
Lecturer
Qualification: B. Pharm, M. S (TQM), M. Phil
Area of Specialization: Pharmacology/Community Pharmacy/Quality Management

Name: Ms. Sadia Chaman
Lecturer
Qualification: B. Pharm, M. Phil
Area of Specialization: Pharmacognosy.

Name: **Hafiz Awais Nawaz**
Lecturer
Qualification: Pharm.D, M. Phil,
Area of Specialization: Pharmaceutics / Pharmacokinetics / Clinical Trials

Name: **Mr. Kamran Atif**
Visiting Faculty
Qualification: Master of Science in Chemistry, MS (TQM) in Medicine
Area of Specialization: Manager Quality Assurance / Quality Management Representative /
Technical Operations Coordinator at Surge Laboratories (Pvt.) Ltd. &
Cosmetics-Contract Manufacturer for L'Oreal Paris in Pakistan.

UNIVERSITY DIAGNOSTIC LABORATORY (UDL)

(ACCREDITED LAB ISO/IEC 17025)

First Disease Diagnostic Lab Internationally Accredited In Livestock Sector of Pakistan



Vision: University Diagnostic Lab (UDL) of the university is serving in the country with vision to enhance the economic strength by encouraging healthy poultry and livestock sectors. The lab's aim to improve the life quality of companion animals, enhancing the safety of animal, protecting wildlife resources through disease diagnostics & control and promotion of awareness towards understanding of disease.

Mission: The laboratory's mission is to provide disease diagnostic services to poultry and livestock sector farmers and guide to control the prevalence of problems. This will be achieved by accurate diagnostics, implementation of internal and external quality assurance programs, research over complex nature problem, sharing of information and ideas and through induction of highly qualified staff. UDL is an internationally accredited lab over international standard ISO/IEC 17025:2005 for lab management by Pakistan National Accreditation Council (PNAC) in 2010, which has mutual recognition arrangements (MRAs) with International Laboratory Accreditation Cooperation (ILAC) and Asia Pacific Laboratory Accreditation Cooperation (APLAC).



It is a milestone in the history of UVAS and livestock sector of

Pakistan that a veterinary disease diagnostic laboratory, both in veterinary and medical profession has got international recognition and its results are now acceptable worldwide.

The lab has following salient features:

- Internationally accredited over ISO/IEC 17025:2005:2005
- Highly qualified staff
- Conducive testing environment
- Implementation of latest technologies through use of latest equipments
- Participating in external quality control program with following agencies/organizations:
 - ✓ Veterinary Laboratory Agency, UK
 - ✓ GD B.V. Animal Health Service, Netherlands
 - ✓ Quebec, Canada
 - ✓ Dept. of Sci. Service, Ministry of Science & Technology, Bangkok, Thailand
- Working 95% CI and aiming for 99% CI
- More than 80 tests are in scope of UDL
- Preparing to implement requirements of ISO/IEC 17043:2010 to provide proficiency testing services all over the world

UDL is providing variety of services which are:

1. DIAGNOSTIC SERVICES

UDL is providing almost all those diagnostic facilities requisite for routine monitoring of the livestock herds, poultry flocks, farms, hatcheries, and feed mills to formulate preventive measures to avoid losses owing to possible morbidity and mortality of their animals in particular and economical losses to the industry in general. The contribution of lab may be evaluated through the number of tests; on an average the lab is performing 1200 – 1500 tests per month in December 2011.



2. ACADEMICS

Highly qualified staff of UDL is also engaged in teaching service to under and post graduates of UVAS. Student avail a chance to know about the latest techniques, equipments, standard test methods and scientific knowledge based on research. The lab is providing a facility to students perform practical and improve their technical expertise to perform examination over variety of samples



3. RESEARCH & DEVELOPMENT

UDL is also providing a solid platform for researchers, to find out complex factors causing huge economical losses to livestock sector. Currently fifteen postgraduate students are working in UDL on different research areas. To increase research activities and to provide a more conducive environment for research the Lab has few ongoing research projects on development of diagnostics and has submitted quite a few more projects to national and international funding agencies.

4. HUMAN RESOURCE DEVELOPMENT

UDL is playing a vital role in Human resource development through organizing workshops, providing trainings, refresher courses and diploma courses for UVAS staff, students, farmers, lab and field professionals and personnel from sister institutions of the country. More than 600 participants from distant part of country has got training over advanced techniques of disease diagnostics and establishing lab management system based on ISO/IEC 17025.

5. Diagnostic Laboratory Design

The lab is providing technical support to government and private sector in establishing disease diagnostic labs. The aim of the lab is to harmonize early disease diagnostic system in livestock and poultry sector all over the country. These guidelines for designing/establishing disease diagnostic labs are based on international criteria for a testing / diagnostic lab. The lab established on this pattern will have quality of testing of international standard.



6. Consultancy Service over ISO/IEC 17025:2005 & HACCP

UDL is working over international standard ISO/IEC 17025:2005 since august 2006. It has got international recognition by achieving accreditation over ISO/IEC 17025:2005 in 2010. The lab has well qualified staff trained over international standards and now lab is capable to provide consultancy to sister institutes in developing quality management system and to improve quality of work as per international standards.

7. KEY PERSONNEL WORKING AT UDL

Name of Staff / Designation	
PROF. DR. MASOOD RABBANI <i>Izaz-e-Fazeelat</i> Director / Professor on TTS / HEC Approved PhD Supervisor	DR. ALI AHMAD SHEIKH PhD (Microbiology) Assistant Professor (TTS) / QM ISO 17025
DR. AAMIR GHAFOR BAJWA Ph.D Scholar (New Zealand) Assistant Professor	DR. ARFAN AHMAD PhD (Microbiology) Lecturer
DR. M. ZUBAIR SHABBIR PhD Scholar (UVAS) Lecturer / DQM ISO 17025	DR. FARIHA AKHTAR PhD Scholar (UVAS) Lecturer /DMR Tech. ISO 17025
MR. MUHAMMAD FAROOQ BS (CS) Computer Data Analyst / MR ISO 17025	

International Linkages

The laboratory has developed international collaboration with sister institutions which are as follows:



Sr. No.	University / College	Country	Nature of Cooperation
1	Division of Lab Animal Medicine, David Geffen School of Medicine, University of California, Los Angeles, CA	USA	Faculty development in Lab Animal Facility Management
2	Department of Pathobiology, The University of Connecticut, Connecticut	USA	Collaborative Research & Faculty Development
3	Institute of Animal Health, Compton	UK	- do -
4	Animal Diagnostic Laboratory, PennState University	USA	- do -
5	Atlantic Veterinary College, University of Prince Edward Island	Canada	Faculty Development
6	Agriculture & Agri Food Cooperation (AAFC)	Canada	- do -

DIRECTORATE OF QUALITY OPERATION LAB

ISO-17025 Accredited Lab



AIMS AND OBJECTIVES

Quality of food of animal origin has been a main concern and on account of poor knowledge, lack of sophisticated equipment and techniques, non-availability of suitable labs, no efforts to improve the quality of the food in Pakistan had been made in past. It is a bare fact that animals and plants are constantly exposed to a variety of potentially harmful chemicals / bio-chemicals and pathogens in the polluted environment. There is indiscriminate spray of insecticides on cotton and rice crops. Residues of these insecticides are transferred to animal or poultry through consumption of feed containing chemically contaminated cotton seed cake and the rice. Similarly, there is contamination of disinfectants, antibiotics, mycotoxins etc., in feed of poultry and dairy animals that are excreted in milk, meat or eggs and subsequently enter in our food chain. These chemical or biological toxins or pathogens are posing serious human health hazards. Some effects such as death, acute respiratory illness, skin rashes, toxic hepatitis are apparently visible while some times hidden serious effects such as immunosuppression, reproductive/fetal abnormalities, teratogenic, mutagenic/ carcinogenic effects etc. Reduce growth are not uncommon. Quality Operations Laboratory tests the quality of

livestock and food of animal origin not only to meet the requirement of international trade but also help to provide quality food for our own nationals.

Activities in Quality Operation Laboratory:

Activities are divided in three sections

ICROBIOLOGY SECTION

PATHOLOGY SECTION

TOXICOLOGY SECTION

MICROBIOLOGY SECTION

Real time PCR, Thermal cyclers, ELISA readers and Automatic ELISA washers, Electrophoresis apparatus, Gel documentation system, Blotting Apparatus, Particle Counter, , Fermentor, Ultracentrifugation machine. Automatic dispensing system, Inverted microscope with digital camera, Sonication system, Animal cell culture facilities.

Vaccine Production against various infectious agents like Foot & Mouth Disease Virus (FMDV) A, O ASIA I, Haemorrhagic Septicemia (HS), Newcastle Disease Virus (NDV), Avian Influenza Virus (H7, H9).

OTHER ACTIVITIES

- Hygienic testing of food of animal or plant origin
- Isolation and characterization of contaminant microbes
- Genotyping of FMD type O and Asia I Viruses
- Development Multiplex PCR for avian Influenza Virus
- Virus detection and isolation
- Total bacterial count
- Coliform count
- Staph count
- Pseudomonas counts
- *Coliform* counts
- *Salmonella* counts
- Yeast and mould counts
- Workshops on various instruments and techniques
- Advisory services to the public and private sector
- Postgraduate research in different areas
- Vaccine against Tick Infestation
- Vaccine against Theileriosis
- Serological tests

TOXICOLOGY SECTION

ACTIVITIES

- **TLC based detection**
- Afla toxin
- Ochra toxin
- **Quantitation of Antidiabetic Drugs in Plasma samples**
- Penicillin
- Tetracycline
- Streptomycin
- Sulphonamides
- Gentamycin
- Enrofloxin
- HPLC/GC-MS based detection Wheat, Rice, Corn, Nuts, Milk, Meat, Eggs etc
- **Pesticides Residue Analysis**
 - Organophosphates
 - Chlorinated pesticides
- Detection of Toxins and Drug Residues in Poultry Products
- Detection and quantification of Amino Acids profile in food and Animal Feed is performed by Amino Acid Analyzer

PATHOLOGY SECTION

- Complete Blood Count
- Clinical Chemistry
- Histopathology
- Normal Constituents of Milk
- Milk Adulterants Tests
- Drugs Residue Analysis in meat tissue

OTHER ACHEIVEMENTS

POST GRADUATE STUDENTS SUPERVISED/COSUPERVISED FROM UVAS OR OTHER UNIVERSITIES	30	12
POST GRADUATE STUDENTS UNDER SUPERVISION		
POSTGRADUATES COMPLETED RESEARCH WORK IN QOL	50	
INSTRUMENTS WOPRKSHOP REPAIRED/CALIBRATED EQUIPMENTS		

STAFF POSITION (BPS-17 & ABOVE)

Name:	Prof. Dr. Tahir Yaqub
Designation:	Director
Qualification:	Ph.D, Post Doc.
Name:	Dr. Shafaqat Fatima Rehmani
Designation:	Senior Research Officer
Qualification:	Ph.D
Name:	Dr. Yasin Tippu
Designation:	Assistant Professor
Qualification:	Ph.D
Name:	Dr. Imran Altaf
Designation:	Research Officer
Qualification:	Ph.D
Name:	Dr. Mateen Abbas
Designation:	Assistant Professor
Qualification:	Ph.D
Name:	Mr. Abdul Muqeet Khan
Designation:	Lecturer
Qualification:	M.Sc.
Name:	Syed Fareed Ahmad
Designation:	I T manager
Qualification:	M.Sc.

UNIVERSITY LIBRARY



The University Library is situated on the first floor adjacent to conference hall that has continuously been disseminating the latest knowledge/information to its faculty members, undergraduate & postgraduate students and to the entire livestock sector for the promotion of Higher Education, Research & Extension activities. The University Library has made significant achievements constructing postgraduate reading hall with a computer lab consisting of (135) computers for conducting e-examination and for use of University students etc. The University Library has Regulation 2003, information, collection development policy, etc. The library is presently fully engaged

in providing effective services for the promotion of skilled higher education, research and extension especially digital library and e-brary services through its following sections:-

1. Library Circulation Section

Most of the library books and general stocks have been placed in the main Library Hall where good seating arrangements are available. This section comprises of over 23886 Text and Reference Books relating to Veterinary & Medical Sciences, and other disciplines along with over 1151 M.Sc., M.Phil. and Ph.D. research theses. Searching facility of library books along with theses has been made available on University website (www.uvas.edu.pk/library.htm) and details regarding issue, return and fine on books can be checked through computerized circulation from the library. The reference materials like encyclopedias, dictionaries, atlases, maps, indexes and research reports submitted by research scholars of UVAS are also available in this section. The use of the reference materials is only restricted for study inside the library.

Indexing & Abstracting services regarding post graduate theses and latest research articles published in journals

The library has recently started services of indexing and abstracting of theses available in the library and latest research articles published in various journals to keep the faculty members and students informed about the latest research to be conducted all over the world.

2. The Book bank Section

This section has been organized as a special part of the library to lend expensive text books to the students on long term basis on nominal rental basis as per book bank regulations. The book bank section comprises of over 6000 volumes of text books and students can make full use of this precious facility in enhancing latest knowledge from them.



3. Journal Section

There are 4500 bound volumes of 315 old/retrospective scientific journals. The UVAS Library has been receiving several titles of latest journals, periodicals and magazines related to different disciplines of livestock sector. In addition, a total of 2500 reports/magazines and 11 daily newspapers are also available in this section for use by the students, teachers and other interested readers.

Automation of all retrospective and current journals have been recently completed and information about the availability of scientific journals has also been shared with PARC's Web Based Union Data Base of journals in agricultural libraries of Pakistan (<http://oracle.parc.gov.pk>)



4. Computer Lab. & e-examination hall

This fully air conditioned section was established in 1990 through the courtesy of U.S.MART Project, offering the facilities of study & research through T.V. VCR., Microfiche Reader with Copier. Full multimedia, computers, scanner, laser printer, CD-

writer and CD ROM searching facilities using various equipments are available.

This section has been recently upgraded by installing 135 latest computers for conducting e-examination and students can also use this Lab for study and explore internet facilities to search materials and documents required for completing their assignments.

Major Services provided by the University Library

i. Reading Facility

Reading facility inside the library is available in an air conditioned environment to all users/visitors from 08.00 a.m. to 10.00 p.m. from Monday to Saturday.

a. Reading Room for Under-graduate students

The DVM students use this reading room for study of library materials and to complete their assignments.

b. Reading Room for female students

The staff room available in the library has been reserved only for female students on the instruction of worthy Vice Chancellor so that students can calmly attach full attention to their studies and completion of their assignments given by their teachers.

c. Reservation of IT Lab-III as study room for students

The Lab-III has also been reserved as study room for students in order to attached full attention to their studies assignments.

ii. Photocopy Services

Photostat facility is also available in the library through a contractor at approved rates for the students and staff of the University.

iii. Circulation Services

Circulation services are being provided to library members and staff according to the library regulations

iv. Reference Services

Reference services are provided to the students and staff through verbal communication, T.V., VCR, Microfiche Materials, in house Data Bases, CD-ROM (Consisting of international data bases) and online digital resources through the internet

v. Computerized Catalogue

The library has been computerized and the facilities of self searching of library materials i.e. books, Journals and research theses are available.

vi. Access to Digital Library Resources through PERI Programme

To provide the access to scientific literature, the HEC, Islamabad has launched National Digital Library Programme for all Universities and institutions of Pakistan under the program for enhancement of research information. In this regard the UVAS library has got registration and access to this program and the students are able to get online access to over 23000 pre-reviewed full text international academic/research journals.

vii. E-brary Searching Facility

Online searching facility of more then 45,000 E-Books is also available through HEC digital Library Program is known as e-brary to the students and the staff of the university. These online books can be searched by using the link <http://site.ebrary.com/lib/uvaslahore>.

The Library made a great effort to download all books subject-wise which is being sent to the concerned departments for the information and make full use of this facility.

viii. Searching Facility for Abstracting Databases

The university library has recently acquired two very important and useful CD-ROM Data bases known as Veterinary Sciences on CD-Rom (1973 to 2006) and Animal Production on CD-Rom (1973 – 2006) to update knowledgebase of our faculty members and students. These CD-Rom databases now have been placed on the UVAS Intra-net which are searchable through personal logins of the users.

OFFICER INCHARGE LIBRARY

Prof. Dr. Ijaz Ahmad

Library Staff

Mian Muhammad Ilyas, OSD Library (on leave)

Mr. Muhammad Akram, Librarian

Miss. Abeeda Zia, Assistant Librarian

Syed Khaliq Shah, Library Assistant

HOSTEL FACILITIES



In order to provide academic and research environment, it is of utmost importance that various facilities like proper accommodation, sports and data search are made available to students. Hostels are conveniently close to most amenities and services, and the location provides an ideal base from which to explore the rest of Lahore. There are eight separate hostels; five for boys and three for girls. All the Hostels are equipped with necessary facilities to make the stay of students comfortable. Warden office monitors the Hostels. In the traditional environment of hostels, the administration teachers give parental care to each and every student. Boarders are taught to live like an extended family in perfect harmony with all the residents of the campus. There are beautiful grassy lawns in the hostel premises which give a healthy look to the area and also provide a source of climatic peace. A beautiful mosque to cater large number of students is also available.

Residential Facilities: The Hostels are provided with mess facilities, TV and phone facilities along with a playground. Provision has been made for extra curricular activities. Separate mess, in almost each hostel, is being run by the authorized contractors under the supervision of the Hostel administration. Electrical Water Coolers have been installed at various points in

all the hostels for provision of filtered chilled water. A system of hot water supply by geysers is available in each hostel during the winter season in the washrooms. A small shopping center is located near Tipu Hall. This consists of a general store, photocopying shop and Laundry shop. Hostel Cafeteria and fruit shop are located in front of Tipu Hall and Iqbal Hall, which comprehensively meet the needs of the students and provide the catering services till late at night.

The computer lab in Iqbal Hall has several computers with Internet connection used extensively by the students to surf the net for their studies and research. The service is being provided to the students after class timings. A large number of English and Urdu Newspapers are provided in the each of the hostels. Telephone extensions from the main exchange of the University having telephone numbers 99211374, 99211449 (Iqbal Hall: 257) are available in two main hostels. In addition to it, direct incoming number 99211420 is available in Iqbal Hall.

Accommodation Facilities: With opening of new departments and degree programs, the number of students increased substantially. Additionally 4 residential facilities at Ravi campus have been developed. The available seats in each hostel and currently residing status are as under:

NAME OF HOSTEL	NAME OF HOSTEL ADMINISTRATION		CAPACITY	RESIDING
Hall Warden: Prof. Dr. Masood Rabbani				
Jinnah Hall, City Campus	Mr. Shahid Abbas Assoc. Hall Warden / HS	Dr. Hassan Riaz Resident Tutor	165	185
Iqbal Hall, City Campus	Dr. Muhammad Ashfaq Hall Superintendent	Dr. Ishtiaq Ahmad Resident Tutor	160	160
Seth Sarwar Hall, City Campus	Dr. Jalees A. Bhatti Hall Superintendent	Dr. Tanvir Hussain Resident Tutor	96	96
Tipu Hall, City Campus			45	60
Sir Syed Hall, City Campus	Dr. Atif Hanif, Hall Superintendent	Dr. Sajid Umar Resident Tutor	30	30
Fatima Hall & Khadijah Hall, City Campus	Ms. Sehrish Faryal, Acting Hall Superintendent (girls)	Ms. Sehrish Faryal, RT	83	135

UNIVERSITY SPORTS



Sports and game facilities are available to the students. There are playgrounds for Hockey, Football, Volleyball, Badminton, Tennis and Basketball.

1. The University Sports clubs including Tennis, Indoor Games, Athletics, Cricket, Football, Hockey, Volleyball, Badminton, Table Tennis, Basketball, Body Building, Judo Karate, Handball, Boxing, Squash and Hiking Club.
2. Each Club has President and Vice-President who are staff members.
3. The president organizes the teams, arranges games and matches and helps the

Members of the Club in getting necessary facilities.

4. Secretaries and Captains of the Clubs assist the presidents in their work. They are elected amongst the players.
5. Inter-Tutorial Group Tournaments and Sport Championships are held annually. Prized are awarded to the winners.
6. The presidents of various Clubs from the University Sports committee, the Chairman and the Secretaries are elected every year.



Sports Staff

Dr. Khalid Saeed

Chairman

Rana Amjad Iqbal

Director

Miss Humaira Latif

Assistant Director

UNIVERSITY MOSQUE



For the convenience of the resident students and the staff, a mosque was built on the University Campus in 1950. The University has employed an Imam and Moazzan for the mosque. The air-conditioned mosque has been expanded recently to accommodate the growing number of "Namazies" in the mosque.

INFORMATION TECHNOLOGY (IT) CENTER

To meet the challenges of day to day improvement in the knowledge, Information (IT) had emerged as an essential tool for the growth in every field of life. To strengthen the Livestock Sector as well as Veterinary and Animal Husbandry Sciences, the UVAS has taken very progressive steps in order to adopt this latest technology. For this purpose an **IT Center** has been established in the university.

In this connection, since the last five years, with the collaboration of **HEC**, UVAS has spent a large amount to develop the **IT** infrastructure and Data center for the faculty members, staff and students of the University in the best and latest possible ways. At the moment, University has internet facility @ 24 Mbps bandwidth for students, staff, faculty members and researchers. The University Departments have been connected with the Fiber Optic backbone. The seven computer labs having 300 PCs in different locations, library and hostels have been installed at both city & Ravi Campuses of the university. The facilities of Internet, printing, scanning and CD writing are available from morning till night in these Labs. Training programs are being continuously arranged by IT Center to meet the need of trained/skilled manpower for UVAS and various public and private organizations.

IT Center manages the overall IT infrastructure of the university like network development, expansion and maintenance, providing maintenance/trouble shooting services (network, hardware and software) to all departments, Software Development, Data base Management & Website Development and 24-hours Internet facility.

IT Center has also made the conduction of examination system on line which enhances transparency in the exams and on line results are also produced upon completion of exams. Video Conferencing facility is also available in the university to interlink research, development and socio economic national/international activities.

IT CENTER STAFF

Muhammad Rizwan Saleem	(Director IT)
Aaqib Inam	(Software manager)
Muhammad Nadeem Ashraf	(System Engineer)
Imran Younas Chohan	(Network Engineer)
Yasir Ameen	(Network Engineer)
Zeeshan Ali	(Software Engineer/Webmaster)

IT Administrators

Abrar Hussain
Irfan Younas
Rehmat Ali

(Fill the form online from UVAS website carefully and submit in the Directorate ORIC office along with bank deposited challan copy)



UNIVERSITY OF VETERINARY AND ANIMAL SCIENCES, LAHORE
APPLICATION FORM FOR ADMISSION TO POST-GRADUATE STUDIES
(M.Phil / Ph.D)

Note: Please read instructions carefully before filling the Form.

1. Degree to which admission is sought M. Phil ☐ Ph.D. ☐
 2. Discipline to which admission is sought _____

3. Status desired:

(a) Regular Student ☐

(b) University Employees: ☐

(1) Full-time (on-leave) ☐ (II) Part-time ☐

(c) Govt. Employee (on leave) ☐

(d) Employee of other Statutory Organizations on leave ☐

4. Name: _____ Father's Name: _____

5. National Identity Card No. _____ Domicile: _____

6. Registered Number: _____ Date of Birth: _____ Nationality: _____

7. Present address for correspondence with Telephone/ Cell No. & E-mail Add: _____

8. Present Home Address: _____

9. Academic Record

Degree/Certificate	University	Roll #	Year of Passing	Annual/ Supplementary	Marks Obtained/ Total or CGPA	Division OR Grade	Subjects	
							Major	Minor
Matriculation								
F.Sc. (Pre-Med.)								
D.V.M., B.Sc (Hons.) AH, MBBS, BDS, B.Pharm/ Pharm D, M. Sc. Life-Sciences Or any other equivalent Degree.								
M.Sc. (Hons.)/ M.Phil								

10. Experience

Employment/Occupation	Employer	Brief Description of Job	From month/year	To month/year	Permitted by employer or not
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I solemnly declare that:

1. The particulars given in this form are correct to the best of my knowledge and belief and I have not concealed anything.
2. I have not taken admission in any Postgraduate course previously.
3. I have been never convicted by a court of law nor has a case ever been registered against me.
4. I shall not indulge in any activity, which is subversive or prejudicial to the interest of the University, throughout the period of my study, and shall abide by the rules of the University, framed from time to time.
5. If anything is found contrary to above against me, the University shall have the right to cancel my admission.
6. I will pay the capitation fee, if due.

Dated _____

Signature of Applicant

INSTRUCTIONS

Attested copies of the following documents from a Gazetted Officer must accompany the application:

- a. Matriculation Certificate.
- b. Intermediate Certificate.
- c. Detailed marks certificate/ Transcripts of D.V.M., B.Sc (Hons.) AH, MBBS, BDS, B.Pharm/ Pharm D, M. Sc. Life-Sciences Or any other equivalent Degree/ M. Phil, M. Sc (Hons.).
- d. Migration Certificate in case of those applicants who are graduates of Universities other than the University of Veterinary and Animal Sciences, Lahore
- e. Character Certificate duly signed by the Head of the Institution last attended on the prescribed Form.
- f. Nomination/Permission from the Head of the Institution/Organization/Government Department (for employees only).
- g. Two copies of passport size of recent photograph.
- h. Copy of National Identity Card.
- i. Copy of Domicile Certificate.
- j. Copy of the registration from the concerned council.
- k. Separate application Form is required for each discipline.
- l. Column # 10 must be filled by each candidate giving facts of the employment.
- m. Concealment of facts and / or false statement will lead to cancellation of admission at any stage.
- n. Incomplete application forms and those received after due date shall not be entertained.
- o. At the time of 1st enrollment a certificate from the University Resident Medical Officer to the effect that he is free from any communicable disease or mental or physical disability which is likely to stand in the way of his pursuing the chosen field of study.
