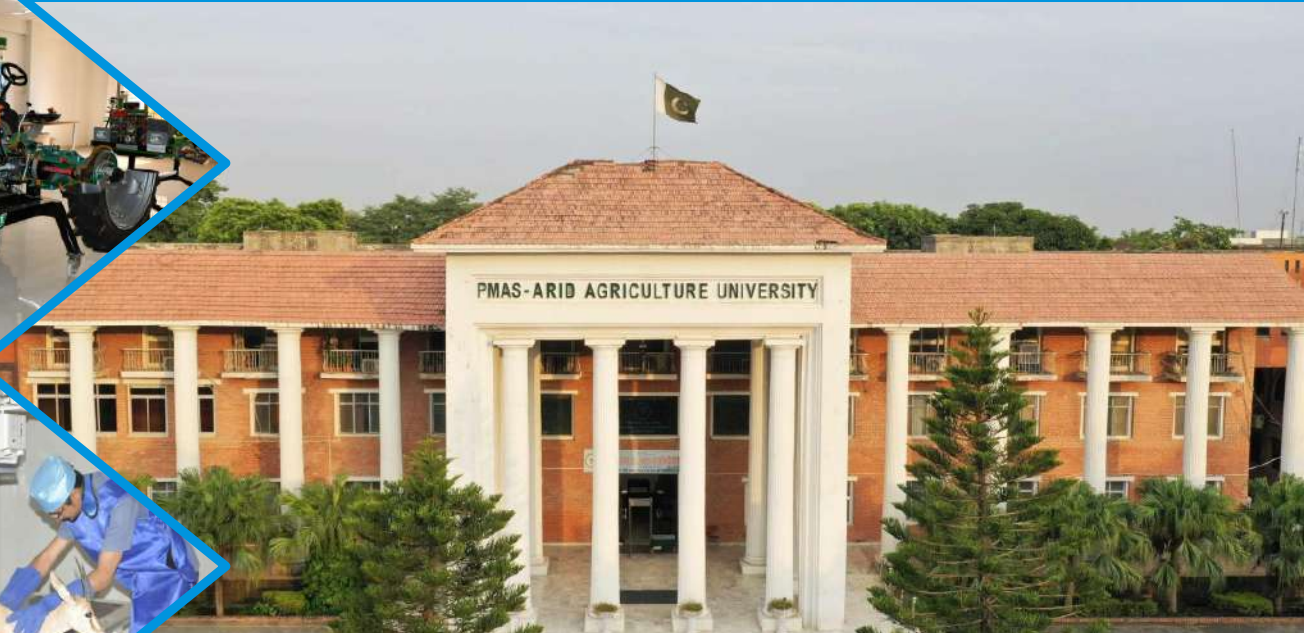




PIR MEHR ALI SHAH

ARID AGRICULTURE UNIVERSITY

RAWALPINDI



PROSPECTUS 2021-22

سُبْحَانَكَ اللَّهُمَّ رَبِّ السَّمَاوَاتِ السَّبْعِ وَرَبُّ الْعَرْشِ الْمَجِيدِ



Muhammad Sarwar
Chancellor/Governor of the Punjab





Prof. Dr. Qamar-uz-Zaman
Vice Chancellor



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PROGRAMS OFFERED

i. B.Sc (Hons.) Agriculture (Specialization in subjects i.e. Agri. Economics, Agri. Extension, Agronomy, BS (Forestry), Entomology, Food Technology, Horticulture, Plant Breeding & Genetics, Plant Pathology, Soil Science and Soil Water Conservation, Weed Science & Seed Science)	11
ii. M.Sc (Hons.) Agriculture (Agricultural Extension, Agronomy, Entomology, Horticulture, Plant Breeding & Genetics, Plant Pathology)	13
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INTRODUCTION

Pakistan is predominantly an agricultural country. However, since its independence in 1947, emphasis has been on irrigated agriculture, while rainfed agriculture remained neglected. With rapid increase in population, the irrigated areas failed to provide sufficient food requirements and it became imperative to find out ways to make use of the huge part of cultivable land in the rainfed region. In the 1970s, the Government of Pakistan constituted a Barani Commission to review and recommend measures for the development of rainfed agriculture and uplift of the poor masses through education, research, and development of technology and manpower. Pursuant to the recommendations of the Barani Commission, the Government of Punjab established Barani Agricultural College, Rawalpindi which was later upgraded to the level of the University in 1994. The mandate of the University is to produce high-quality agricultural scientists and to form an organized scientific infrastructure for teaching and research for the development of dry land regions of the country, thus minimizing the income gap between the rich and poor.



The University includes Faculty of Crop and Food Sciences, Faculty of Sciences, Faculty of Veterinary and Animal Sciences, Faculty of Forestry, Range Management and Wildlife, Faculty of Agricultural Engineering & Technology, Faculty of Social Sciences, Institute of Nutrition & Food Sciences, Institute of Hydroponic Agriculture, Directorate of Advanced Studies, Directorate of Research, Innovation & Commercialization, University Institute of Management Sciences (UIMS), University Institute of Information Technology (UIIT), University Institute of Biochemistry & Biotechnology (UIBB), Institute of Geo-Information and Earth Observation (IGEO), Institute of Soil Science, University Research Farm, Sub-campus Khushab, Sub-campus Attock. The University offers a number of degree programmes leading to Bachelor, Master and Ph.D. in various disciplines of Agriculture, Bachelor, Master and Ph.D. in Agricultural Engineering and Veterinary & Animal Sciences, Bachelor, Master and Ph.D. in Forestry & Range Management, Wildlife Management and Environmental Sciences, Bachelor, Master and Ph.D. in Business Administration, Bachelor, Master and Ph.D. in Computer Sciences and Information Technology, Bachelor, Master and Ph.D. in Biological Sciences, Social Sciences and Earth Sciences.

Pursuit of excellence on the University campus is a function of competent and dedicated university faculty. The PMAS - Arid Agriculture University Rawalpindi has, therefore, made constant efforts at staff development with the result that nearly 72% of the faculty members possess Ph.D. degrees, while the others have M.Sc. (Hons.) and M.Phil degrees.

The University is open to all persons regardless of religion, race, creed, class or color, and no one is deprived of the benefit accruing from the University on any such grounds.

The University is located in Rawalpindi almost in the center of the twin cosmopolitan cities of Rawalpindi and Islamabad, the capital of the country. These cities are beautiful towns located in the foothills with a blend of old and new cultures and constructions. The towns provide pollution free environment, scenic Pothwar vegetation and topography of plateau land. The twin cities have a population of about one million. They are situated in the northern part of Pakistan on the Pothwar plateau in the Province of Punjab.

The University with its most beautiful building in the twin-cities is situated on Murree Road, close to the Rawalpindi Cricket Stadium and has assumed the significance of a landmark because of its architecture. The University building contains an auditorium, multi-storied administrative block, a library, four multi-storied academic blocks, UIMS, UIIT, UIBB FV&AS buildings and Khalid Mahmood Khan Gymnasium.

The University is situated on the busy Murree Road where transport is easily available, which makes the university approachable from all parts of the twin-cities at all hours of the day. This facility and busy nature of the area allows the University to continue its curricular and co-curricular activities till late in the evening.

The central location of the university places it in proximity to major institutions of higher learning and research like Pakistan Agricultural Research Council (PARC), National Agricultural Research Centre (NARC), National Institute of Health (NIH), Pakistan Museum of Natural History (PMNH), Rawalpindi Medical College, Poultry Research Institute, Fisheries Research and Training Institute, International Institute for Biological Control of the Common Wealth and Agency for Barani Areas Development (ABAD). The location of University also allows the utilization of expertise scattered in the twin cities for providing quality education by teachers/executives in fields of their specialization.

Collaborative research and teaching programs are being developed with these institutions for better teaching and research facilities for the students. The university has signed MoUs with Pakistan Agricultural Research Council, Islamabad; Agricultural University of Hebei, China; International Centre for Agricultural Research in Dry land Areas (ICARDA), Syria, Federal Seed Certification and Registration Department, Korea, China and CABI to assist each other in teaching, research and extension activities.



ADMINISTRATION

The Syndicate is the highest executive body of the University while the Academic Council, the Selection Board, the Finance and Planning Committee and Advanced Studies and Research Board are advisory bodies to the Syndicate pertaining to their respective functions and responsibilities.

Governor of the Punjab is the Chancellor of the University. The Vice-Chancellor is the Chief Executive of the University. In the performance of his duties, the Vice Chancellor is assisted by the Pro-Vice Chancellor, Deans of the Faculties, Directors of the Institutes/Chairpersons of teaching Departments, Director Quality Enhancement Cell, the Principal Officers, the Registrar, the Treasurer, the Controller of Examinations, Director Planning & Development and Project Director Works.

Administrative set up of the University is as follows:

OFFICE OF THE VICE CHANCELLOR

Vice Chancellor	Prof. Dr. Qamar-uz-Zaman
P.S to the Vice Chancellor	Mr. Muhammad Rafique
Deputy Registrar	Mr. Mustafa

OFFICE OF THE REGISTRAR

Registrar	Mr. Muhammad Aqeel Sultan
Deputy Registrars	Mr. Muhammad Adnan Riaz
	Mirza Haseeb Baig
	Mr. Zahid Mahmood
P.A to the Registrar	Mr. Muhammad Shabbir



OFFICE OF THE TREASURER

Director/Treasurer	Syeda Iram Umer
Deputy Registrars (TR)	Raja Afzal Mehdi Mr. Abdul Wahid
Assistant Registrars (TR)	Mr. Muhammad Asad Malik Muhammad Khan Mr. Ali Akbar
Resident Auditor	Mr. Altaf Hussain
Assistant Registrar (Internal Audit)	Mr. Haroon Akbar Mr. Ali Nasir

OFFICE OF THE CONTROLLER OF EXAMINATIONS

Controller of Examinations	Mr. Shahbaz ahmad Khan
Deputy Registrar (Exams)	Sheikh Naveed Akram
Assistant Registrars (Exams)	Mr. M. Imran Khurram Ms. Asma Safdar Dr. Mohsan Iqbal
PA to Controller of Exams	Mr. Atif Nazir

DIRECTORATE OF RESEARCH INNOVATION & COMMERCIALIZATION

Director	Prof. Dr. Khalid Saifullah Khan
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DIRECTORATE OF PLANNING AND DEVELOPMENT

Director	Mr. Shahid Ali Khan
Assistant Registrar	Mr. Waqas Farooq

DIRECTORATE OF FINANCIAL ASSISTANCE & UNIVERSITY ADVANCEMENT

Director	Chaudhry Waqas Ahmed
Deputy Registrar	Mr. Tariq Mahmood
Assistant Registrar	Ms. Shahida Yousaf



DIRECTORATE OF ADVANCED STUDIES

Director	Dr. M. Azam Khan
Deputy Director/Assistant Professor	Dr. M. Farooq Nasir
Assistant Directors/Lecturers	Ms. Kanza Gulzar Mr. Nasir Ali

DIRECTORATE OF PUBLIC RELATIONS & PUBLICATIONS

Principal Officer	Mr. Nadeem Ahmad Malik
Deputy Registrar (PRP)	Mr. Musa Kalim

DIRECTORATE OF PROCUREMENT AND INVENTORY CONTROL

Administrator	Dr. Muhammad Yasin
Deputy Registrar	Mr. Waris Ali
Assistant Registrar (Purchase)	Mr. Saifullah
Assistant Registrar (Store)	Mr. Fazeel Sultan

QUALITY ENHANCEMENT CELL

Director Quality Control	Prof. Dr. Riaz Ahmad
Deputy Registrar QEC	Dr. Mohsan Iqbal
Assistant Registrar-QEC	Ms. Ainee Zafar

STUDENT AFFAIRS, HALL WARDEN & SENIOR TUTOR

Principal Officer	Prof. Dr. Tariq Mukhtar
Director Student Affairs	Dr. Ghulam Hussain Babar
Hostel Warden (Boys)	Dr. Muhammad Hanif
Hostel Warden (Girls)	Dr. Abida Akram
Senior Tutor	Dr. Muhammad Arif Zafar

DIRECTORATE OF SPORTS

Chairman Sports Board	Dr. Aamir Saleem
Principal Officer Sports (Female)	Syeda Irum Umer
Deputy Director Sports	Mr. Zahid Qamar Khan

LIBRARY

Librarian	Mr. Shahid Masood
Assistant Librarian	Mr. Bashir Ahmad

DIRECTORATE OF WORKS

Project Director	Mr. Muhammad Sohail Bhatti
Executive Engineer	Engr. Asim Gulzar
Asst. Executive Engineer	Mr. Ahmad Saeed Awan
Sub Divisional Engineer (E)	Engr. M. Ather Mehmood
Sub-Divisional Officer (M)	Mr. Azhar Sohail

TRANSPORT SECTION

Principal Officer (Transport)	Dr. Jehanzeb Masud Cheema
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DIRECTORATE OF ACADEMICS

Director	Prof. Dr. Ghulam Jilani
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ESTATE CARE AND SECURITY OFFICE

Principal Officer	Prof. Dr. Fayyaz Ul Hassan
Horticulturist/Lecturer (Landscape)	Mr. Usman Shoukat Qureshi
Assistant Registrar (Security)	Mr. Kashif Mehmmod

NETWORK & IT SERVICES CENTER

Director	Mr. Nadeem Ahmad Malik
Database Administrator	Mr. Majid Tahir
System Administrator	Mr. Safdar Abbas
Network Administrator	Mr. Shahzad Ashraf
Software Developers	Ms. Zahida Shaheen
	Ms. Ghazala Rasheed

UNIVERSITY MEDICAL CENTER

Senior Medical Officer	Dr. Rizwan Mahmood Raja
Medical Officer (M)	Dr. Saqib Hasnain Saqi
Medical Officer (F)	Dr. Sofia Nadeem
	Dr. Rubina Malik

The University consists of the following Faculties, Institutes and their Teaching Departments.

- 
- a **FACULTY OF CROP AND FOOD SCIENCES**
 - b **FACULTY OF SCIENCES**
 - c **FACULTY OF VETERINARY & ANIMAL SCIENCES**
 - d **FACULTY OF FORESTRY, RANGE MANAGEMENT & WILDLIFE**
 - e **FACULTY OF AGRICULTURAL ENGINEERING & TECHNOLOGY**
 - f **FACULTY OF SOCIAL SCIENCES**
 - g **UNIVERSITY INSTITUTE OF MANAGEMENT SCIENCES**
 - h **UNIVERSITY INSTITUTE OF INFORMATION TECHNOLOGY**
 - i **UNIVERSITY INSTITUTE OF BIOCHEMISTRY AND BIOTECHNOLOGY**
 - j **INSTITUTE OF FOOD AND NUTRITIONAL SCIENCES**
 - k **INSTITUTE OF GEO-INFORMATION AND EARTH OBSERVATION**
 - l **INSTITUTE OF SOIL SCIENCE**



Dean of the Faculty Prof. Dr. Fayyaz Ul Hassan

This is the major faculty among all the academic units. The faculty is responsible for teaching various courses in different disciplines of agriculture and conducting research on all aspects of crop production at both undergraduate and postgraduate levels. It offers courses of four years duration leading to the degree of B.Sc. (Hons.) Agriculture specializing in ten disciplines including Agric. Economics, Agricultural Extension, Agronomy, Entomology, Food Technology, Horticulture, Plant Breeding & Genetics, Plant Pathology & Soil Science and two years duration leading to M.Sc. (Hons.) Agriculture in Agricultural Extension, Agronomy, Entomology, Horticulture, Plant Breeding & Genetics, Plant Pathology & Soil Science. Ph.D. programme in the disciplines of Agronomy, Entomology, Horticulture, Plant Breeding & Genetics, Plant Pathology & Soil Science are also being offered.

This faculty has the following departments.

I. DEPARTMENT OF AGRONOMY:

Chairman	Dr. Muhammad Ansar
Professor	Prof. Dr. Fayyaz Ul Hassan
Associate Professors	Dr. Ghulam Qadir Dr. Muhammad Rasheed Dr. Irfan Aziz
Assistant Professors	Dr. Abdul Manaf Dr. Mukhtar Ahmad Dr. Imran Mahmood Dr. Naveed Tahir Dr. Ghulam Abbas Shah Dr. Safdar Ali



II. DEPARTMENT OF PLANT BREEDING AND GENETICS:

Chairman	Dr. Zahid Akram
Associate Professor	Dr. Ghulam Shabbir
Assistant Professors	Dr. Talat Mehmood
	Dr. Saad Imran Malik
	Dr. Munir Ahmed
	Dr. Mahmood-ul-Hassan
	Dr. Rashid Mehmood
	Dr. Fahad Masud Wattoo



III. DEPARTMENT OF PLANT PATHOLOGY:

Chairman	Prof. Dr. Tariq Mukhtar
Professor	Dr. M. Inam ul Haq
Associate Professors	Dr. Abid Riaz
	Dr. Farah Naz
Assistant Professors	Dr. Gulshan Irshad
	Mr. M. Usman Raja

V. DEPARTMENT OF ENTOMOLOGY:

Chairman	Prof. Dr. Muhammad Naeem
Associate Professor	Dr. Munir Ahmad
Assistant Professors	Dr. Muhammad Farooq Nasir Dr. Muhammad Tariq Dr. Muhammad Asif Aziz Dr. Farid Asif Shaheen Dr. Asim Gulzar Dr. Imran Bodlah



VI. DEPARTMENT OF HORTICULTURE:

Chairman	Dr. Muhammad Azam Khan
Professor	Dr. Nadeem Akthar Abbasi
Associate Professors	Dr. Imran Hassan Dr. Touqeer Ahmad
Assistant Professors	Dr. Shahid Javed Butt Ms. Najma Yousuf Zahid
Lecturers	Dr. Umer Habib Mr. Usman Shoukat Qureshi Dr. Irfan Ali

VII. DEPARTMENT OF Forestry & Range Management:

Chairman	Dr. Aamir Saleem
Assistant Professors	Dr. Saeed Gulzar Dr. M. Irfan Ashraf Dr. Lubna Ansari
Lecturer	Ms. Sabeeqa Usman Malik



VIII. DEPARTMENT OF AGRICULTURAL EXTENSION:

Chairman

Dr. Badar Naseem Siddiqui

Lecturers

Dr. Muhammad Ali

Mr. Waqar-UI-Hassan Tareen



PROGRAMS OFFERED

B.Sc. (Hons.) Agriculture

A minimum of eight semesters duration program after F.Sc (Pre-Medical/Pre-Engineering) or F.Sc (Pre-Agriculture).

Admission and Registration

(i) **Minimum Academic Requirements:**

a. A candidate holding F.Sc (Pre-Medical/Pre-Engineering) from any recognized Institution with minimum 55% marks or F.Sc (Pre-Agriculture) with CGPA of at least 2.50/4.00 or equivalent certificate from any recognized Institution with minimum 55% marks will be eligible for admission to B.Sc.(Hons.) Agriculture.

OR

b. A person working as Field Assistant/Agriculture Inspector on regular basis with minimum three years service in Agriculture Department & 1st Division with compulsory subjects of Intermediate (i.e English, Urdu, Pak. Studies and Islamiyat) shall be eligible for admission to B.Sc (Hons.) Agriculture, Maximum age limit will be 45 years, NOC and surety bonds to the effect that after completion of B.Sc (Hons.) Agri. the candidate shall have to serve the Department for at least five years.

OR

c. A candidate having three years Field Assistant Diploma with 1st Division in compulsory subjects of Intermediate (i.e. English, Urdu, Pakistan Studies & Islamiyat) from Sub-campus Khushab of PMAS-AAUR.

AGE:

A candidate for clause 1(a & c) must not be more than 23 years of age on 1st October of the year of admission; provided that the Vice-Chancellor may relax age limit in very exceptional case.

Distribution of Seats for B.Sc. (Hons.) Agri. Morning Programme

CATEGORY	NUMBER OF SEATS		
	URBAN	RURAL	TOTAL
1. District wise quota from Punjab			
Open Merit quota from throughout Punjab			80
Rawalpindi	20	50	70
Attock	4	12	16
Jhelum	4	12	16
Chakwal	4	12	16
Gujrat	4	12	16
Mandi Bahuddin	4	12	16
Sialkot (Excluding Tehsil Daska)	4	12	16
Narowal	4	12	16
Mianwali	4	12	16
Dera Ghazi Khan	4	12	16
Muzaffargarh (Tehsil Muzaffargarh and Kot Addu only)	4	12	16
Jhang (Tehsil Jhang and Shorkot)	4	12	16
Layyah	4	12	16
Khushab	4	12	16
Bhakar	4	12	16
Rajanpur	4	12	16
Cholistan	2	6	8
2. Open Merit Quota outside the Punjab			40
3. Provincial Quota			
Sindh	-	-	4
Balochistan	-	-	6
K.P.K	-	-	4
F.A.T.A.	-	-	20
Azad Jammun & Kashmir	-	-	8
Gilgit - Baltistan	-	-	20
Islamabad	4	12	16
4. Other Reserved Seats			
Pakistan Army	-	-	10
Pakistan Air Force	-	-	2
Foreign Students	-	-	20
Children's of University Employees	-	-	8
Field Assistants/Agriculture Inspector	-	-	10
3 years Field Assistant Diploma Holders - from Sub Campus Khushab PMAS-AAUR	-	-	8
Special/Disabled Persons	-	-	6
5. Evening Programme (Self Finance Basis)			300
Total			880

2% quota reserved for minorities

(ii) **Domicile**

The candidates domiciled in the Barani Areas of Punjab shall only be eligible for admission other than open merit, special quotas and on self finance basis.

Each district of the Barani Area of Punjab has a specified quota to be determined by the Academic Council from time to time. The admission from each district will be made as follows; Rural 75% and urban 25% to be determined on domicile.

Each district will have its own merit for Rural and Urban areas candidates separately.

Nominee from each province, FATA, Gilgit-Baltistan, Northern Areas, Azad Jammu & Kashmir, Army, Air Force, Special/disable persons, University Employees will have their own merit separately.

Academic Standing:

- (a) Maximum Grade Point Average 4.00
- (b) Minimum Grade Point Average for obtaining the degree 2.50

(ii) To remain on the roll of the University a student shall be required to maintain the following minimum GPA / CGPA in each semester:

Semester	CGPA
1st	0.75
2nd	1.00
3rd	1.25
4th	1.50
5th	1.75
6th	2.00
7th	2.25
8th	2.50

Explanation:

- (i) A student who maintains the minimum GPA/CGPA for promotion and meets the requirements will be promoted to the next semester.
- (ii) A student who does not meet the above requirements may repeat the whole semester once only.

BS(Forestry)

A minimum of eight semesters and maximum of twelve semesters duration program after F.Sc. (Pre-Medical/Pre-Engineering) with at least 55% marks.

M.Sc. (Hons.) Agriculture

A minimum of four semesters duration programme after B.Sc. (Hons.) Agriculture in respective discipline such as Agricultural Extension & Communication, Agronomy, Entomology, Plant Breeding & Genetics, Plant Pathology and Horticulture.

Admission to the Course:-

A candidate seeking admission to the Course for the Degree of Master of Science in full and partial residence:

- (i) must have passed the Bachelor Degree Examination in aggregate with CGPA of 2.50 or its equivalent for M.Sc. (Hons.) Agriculture, and 50% marks or its equivalent relating to the subject he / she desires to take up.
- (ii) must be resident of the Punjab Barani Areas except the children of the University employees.
- (iii) depending upon the availability of seats as mentioned in (ii) the candidates from the areas outside the Barani areas of Punjab shall also be eligible for admission.
- (iv) the nominees of different departments/ organizations with minimum of 2nd division or its equivalent in Bachelor.
- (v) must have passed University Entrance Test.

Academic Standing:-

(i) Grade Point Average

(a) Maximum grade point average: 4.00

(b) Minimum grade point average for obtaining Master's Degree: 2.50

(ii) A student, who obtains CGPA of 2.00 or above but less than 2.50, upon the completion of entire approved course work or minimum residency, may be allowed to repeat the courses of the previous semesters in which he had obtained the lowest grades, in order to improve the CGPA so as to obtain the minimum of 2.50 within the maximum time allowed for the award of degree, failing which he shall cease to be on the roll.

To remain on the roll of the University a student shall be required to maintain the following minimum GPA /CGPA in each semester:

Semester	CGPA
1st	1.50
2nd	1.75
3rd	2.00
4th	2.50

- (iii) A student will be required to repeat those courses of the previous semesters in which he / she had failed, at the first available opportunity, provided that his / her maximum workload, including the courses being repeated by him / her, will not exceed the normal workload.

M.Phil (Forestry & Range Management)

A minimum of four semesters and maximum of six semesters duration program for full time students and minimum of six semesters and maximum of eight semesters duration programme for part time students after M.Sc./B.Sc. (Hons.)/BS in the relevant field after Sixteen year education (M.Sc 2 years; BS degree in relevant subject with minimum CGPA of 2.50 out of 4.00 or 50% marks. Must have passed University Entrance Test.

Ph.D.

Ph.D. Agriculture degree program in the disciplines of Agronomy, Entomology, Food Technology, Soil Science, Horticulture, Plant Pathology, and Plant Breeding & Genetics after M.Sc. (Hons.) Agriculture in the relevant discipline, a minimum of six semesters duration.

Admission to Course:

- (i) A candidate seeking admission to the Course for the Degree of Doctor of Philosophy in full and partial residence must:
- have passed the M.Sc (Hons.) Degree Examination or an equivalent examination in 1st division or 3.00/4.00 CGPA from a recognized institution in a field of study related to the subject, he desires to take up.
 - meet all the requirements mentioned in these regulations.
 - the application of the candidate must be accompanied with a comprehensive research proposal that he intends to undertake. He/She will also be required to defend the proposal in an open seminar after admission before undertaking the research study.
 - Must have passed University Entrance Test with 70% marks.

ACADEMIC STANDING:

- (i) **Grade Point Average:** Grade point will be as follows:
A for 4, B for 3, and C for 2 and F for failure (that is zero).
- | | | |
|----|--|------|
| a. | Maximum grade point average | 4.00 |
| b. | Minimum grade point average for obtaining the degree | 3.00 |
- (ii) To remain on the rolls of the University, a student shall be required to maintain the minimum CGPA of 3.00.
- (iii) A student, who obtains CGPA less than 3.00 may be allowed to repeat once the courses of the previous semesters in which he has failed.

SCHEME OF STUDIES FOR B.Sc. (HONS.) AGRICULTURE

SEMESTER - I

COURSE	TITLE OF COURSE	CREDITS
AEC-301	Principles of Agricultural Economics	3(3-0)
AGR-301	Basic Agriculture	3(2-2)
ENG-301	Fundamental English	3(3-0)
HORT-301	Introductory Horticulture	3(2-2)
SSH-301	Pakistan Studies	3(3-0)
MATH-301/BIOL-301	Mathematics-I / Biology-I	3(2-2)
SS-301	Introduction to Soil Science	3(2-2)

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SEMESTER - II

AGR-302	Summer Crops	3(2-2)
ENG-302	Communication Skills	3(3-0)
FT-302	Introduction to Food Science	2(2-0)
HORT-302	Horticultural Crop Production	3(2-2)
IS-303/ET-302	Islamic Studies/Ethics	2(2-0)
IT-302	Introduction to Information Technology	3(1-4)
MATH-302/BIOL-302	Mathematics-II / Biology-II	3(2-2)
AS-302	Animal Husbandry	3(2-2)
SS-302	Soil and Water Conservation	3(2-2)

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SEMESTER - III

COURSE	TITLE OF COURSE	CREDITS
AE-401	Introduction to Agricultural Extension	3(2-2)
AEN-401	Farm Mechanization & Water Conservation Engineering	3(2-2)
AGR-401	Winter Crops	3(2-2)
ENT-401	Introductory Entomology	2(1-2)
FT-401	Food Processing and Preservation	3(2-2)
PBG-401	Introductory Genetics	2(1-2)
PP-401	Introductory Plant Pathogens	2(1-2)
HA-301	Introduction to Hydroponic Agriculture	2(1-2)

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SEMESTER - IV

AE-402	Introduction to Communication in Agricultural Extension	3(2-2)
ENT-402	Applied Entomology	3(2-2)
FR-401	Introduction to Forest and Range Management	3(2-2)
PBG-402	Introductory Plant Breeding	3(2-2)
PP-402	Introductory Plant Pathology	3(2-2)
SS-402	Instrumentation and Laboratory Techniques	3(2-2)
STAT-402	Introduction to Statistics	3(2-2)
MGT-402	Introduction to Agri. Business Management	3(1-4)

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SEMESTER - V**COURSE****TITLE OF COURSE****CREDITS****Agricultural
Economics**

AEC-501	Principles of Microeconomics	3(3-0)
AEC-503	Principles of Macroeconomics	3(3-0)
AEC-505	Elementary Calculus	3(3-0)
AEC-507	Agricultural Problems of Pakistan	3(3-0)
AEC-509	Introduction to Natural Resource Economics	3(3-0)
AEC-511	Economics of Livestock Production	3(3-0)

**Agricultural
Extension**

AE-501	Communication and Leadership Skills in Agricultural Extension	3(2-2)
AE-503	Introduction to Extension Education Methods	3(2-2)
AE-505	Philosophy of Agricultural Extension	3(3-0)
AE-507	Rural Development Programmes in Pakistan	3(3-0)
AE-509	Agricultural Technology Transfer	3(2-2)
AE-511	Distance Education	2(2-1)

Agronomy

AGR-501	Field Crop Physiology	3(2-2)
AGR-503	Agro-Technology of Field Crops	3(2-2)
AGR-505	Seed Production and Technology	3(2-2)
AGR-507	Environment and Crop Production	2(2-0)
SS-501	Physical Properties of Soil	3(2-2)
PBG-503	Breeding Field Crops	3(2-2)

Scheme of Studies for Different Programmes

Entomology

COURSE	TITLE OF COURSE	CREDITS
ENT-501	Insect Morphology	3(2-2)
ENT-503	Principles of Insect Taxonomy	3(2-2)
ENT-505	Insect Ecology	3(2-2)
ENT-507	Insect Pests of Household, Man and Animals	3(2-2)
ENT-509	Insect Behaviour	3(2-2)
ENT-511	Apiculture	3(2-2)

Food Technology

FT-501	Principles of Human Nutrition	3(3-0)
FT-503	Instrumental Techniques in Food Analysis	3(2-2)
FT-505	Food Microbiology	3(2-2)
FT-507	Technology of Fats and Oils	3(2-2)
FT-509	Beverage Technology	3(2-2)

Horticulture

HORT-501	Principles of Fruit Production	4(3-2)
HORT-503	Principles of Vegetable Production	3(2-2)
HORT-505	Principles of Ornamental Crop Production	3(2-2)
HORT-507	Propagation and Nursery Management	3(1-4)
HORT-509	<i>In vitro</i> Propagation	2(1-2)
HORT-511	Vegetable and Flower Seed Production	3(2-2)

Plant Breeding & Genetics

PBG-501	Principles of Genetics	3(2-2)
PBG-503	Breeding Field Crops	3(2-2)
PBG-505	Cytogenetics	3(2-2)
PBG-507	Experimentation in Plant Breeding	3(2-2)
PBG-509	Breeding Cereal Crops	3(2-2)
PBG-511	Breeding for Crop Quality Traits	3(2-2)

	COURSE	TITLE OF COURSE	CREDITS
Plant Pathology	PP-501	Introductory Mycology	3(2-2)
	PP-503	Introduction to Plant Parasitic Nematodes	3(2-2)
	PP-505	Introduction to Plant Prokaryotes	3(2-2)
	PP-507	Introduction to Plant Viruses	3(2-2)
	PP-509	Abiotic Diseases of Plants	3(2-2)
	PP-511	Introduction to Molecular Plant Pathology	3(2-2)

SEMESTER VI

Agricultural Economics	AEC-502	Elementary Production Economics	3(3-0)
	AEC-504	Agribusiness Management	3(3-0)
	AEC-506	Agricultural Finance	3(3-0)
	AEC-508	Mathematics for Economists	3(3-0)
	AEC-510	Rural Development	3(3-0)
	AEC-512	International Economics	3(3-0)
	STAT-502	Experimental Design	2(1-2)
Agricultural Extension	AE-502	Agricultural Journalism	3(2-2)
	AE-504	Adult Learning	3(3-0)
	AE-506	Extension Programme Development	3(2-2)
	AE-508	Rural Youth in Agricultural Development	3(2-2)
	AE-510	Poverty Alleviation and Sustainable Development	3(3-0)
	AE-512	Biodiversity and Agricultural Extension	3(3-0)
	AE-514	Introduction to Programme Evaluation	3(2-2)
	STAT-502	Experimental Design	2(1-2)

Scheme of Studies for Different Programmes

	COURSE	TITLE OF COURSE	CREDITS
◆ Agronomy	AGR-502	Crop Growth and Development	3(2-2)
	AGR-504	Principles of plant Nutrition and Growth Regulator	3(2-2)
	AGR-506	Principles of Weed Science	3(2-2)
	AGR-508	Forage and Fodder Production	3(2-2)
	AGR-510	Organic Farming	2(2-0)
	AGR-512	Conservation Agronomy	2(2-0)
	SS-504	Soil Fertility and Fertilizers Use	3(2-2)
	STAT-502	Experimental Design	2(1-2)
◆ Entomology	ENT-502	Insect Physiology	3(2-2)
	ENT-504	Insect Classification and Biodiversity	3(2-2)
	ENT-506	Agricultural Pests and Their Management	3(2-2)
	ENT-508	Stored Product Pests and Their Management	3(2-2)
	ENT-510	Beneficial Insects	3(2-2)
	ENT-512	Biological Control of Insect Pests	3(2-2)
	STAT-502	Experimental Design	2(1-2)
	◆ Food Technology	FT-502	Sugar Technology
FT-504		Dairy Technology	3(2-2)
FT-506		Post-Harvest Technology	3(2-2)
FT-508		Food Chemistry	3(3-0)
FT-510		Food Safety and Food Laws	3(3-0)
STAT-502		Experimental Design	2(1-2)
◆ Horticulture		HORT-502	Tropical and Sub-Tropical Fruits
	HORT-504	Summer Vegetables	3(2-2)
	HORT-506	Landscape Horticulture	3(2-2)
	HORT-508	Post-Harvest Horticulture	3(2-2)
	HORT-510	Medicinal and Aromatic Plants	3(2-2)
	HORT-512	Business Management	3(3-0)
	HORT-514	Indoor Plant culture and Scaping	3(2-2)
	STAT-502	Experimental Design	2(1-2)

Plant Breeding & Genetics

COURSE	TITLE OF COURSE	CREDITS
PBG-502	Breeding Fodder and Forage Crops	3(2-2)
PBG-504	Breeding Oilseed Crops	3(2-2)
PBG-506	Breeding Maize and Millets	3(2-2)
PBG-508	Biodiversity and Plant Genetic Resources	3(3-0)
PBG-510	Molecular Genetics	3(2-2)
PBG-512	Crop Variety Registration and Intellectual Property Rights	3(3-0)
PBG-514	Fundamentals of Research and Scientific Writing	3(3-0)
STAT-502	Experimental Design	2(1-2)

Plant Pathology

PP-502	Diseases of Field Crops	3(2-2)
PP-504	Diseases of Vegetable Crops	3(2-2)
PP-506	Diseases of Fruits and Ornamentals	3(1-2)
PP-508	Methods and Techniques in Plant Pathology	3(1-2)
PP-510	Plant Resistance to Diseases	3(2-2)
PP-512	Beneficial Microorganisms for Sustainable Agriculture	3(2-2)
PP-514	Pesticides, Their Action and Application	3(2-2)
STAT-502	Experimental Design	2(1-2)

SEMESTER VII

Agricultural Economics

AEC-601	Principle of Agricultural Marketing	3(3-0)
AEC-603	Islamic Economics	3(3-0)
AEC-605	Development Economics	3(3-0)
AEC-607	Introduction to Econometrics	3(3-0)
AEC-609	Introduction to Research Method	3(2-2)
AEC-611	Agricultural Policies of Pakistan	3(3-0)

Scheme of Studies for Different Programmes

Agricultural Extension

COURSE	TITLE OF COURSE	CREDITS
AE-601	Introduction to Cyber Extension	3(2-2)
AE-603	Human Resource Development	3(2-2)
AE-605	Agricultural Advertising	3(2-2)
AE-607	Agricultural Extension and Gender Studies	3(3-0)
AE-609	Food Security and Agricultural Extension	3(3-0)
AE-611	Research Methods in Social Sciences	3(2-2)

Agronomy

AGR-601	Crop Water Management	3(2-2)
AGR-603	Biological Nitrogen Fixation	3(2-2)
AGR-605	Field Crop Ecology	3(3-0)
AGR-607	Stress Physiology	3(2-2)
AGR-609	Crop Growth Modeling	3(2-2)
SS-605	Nuclear Techniques in Soil Research	3(3-0)

Entomology

ENT-601	Integrated Pest Management	3(2-2)
ENT-603	Plant Resistance to Insect Pests	3(2-2)
ENT-605	Insecticides and their Application	3(2-2)
ENT-607	Range and Forest Entomology	3(2-2)
ENT-609	Agriculture and Environmental Pollution	3(2-2)
ENT-611	Entomological Enterprises	4(2-4)

Food Technology

FT-601	Community Nutrition	3(2-2)
FT-603	Cereal Technology	3(2-2)
FT-605	Meat Technology	3(2-2)
FT-607	Unit Operations in Food Processing	3(3-0)
FT-609	Project Planning, Execution and Scientific Writing	2(1-2)

	COURSE	TITLE OF COURSE	CREDITS
◆ Horticulture	HORT-601	Physiology of Horticultural Plants	3(2-2)
	HORT-603	Temperate Fruits	3(2-2)
	HORT-605	Winter Vegetables	3(2-2)
	HORT-607	Protected Horticulture	3(2-2)
	HORT-609	Breeding of Horticultural Crops	3(2-2)
	HORT-611	Arid Horticulture	3(2-2)
	HORT-613	Commercial Flower Production	3(2-2)
◆ Plant Breeding & Genetics	PBG-601	Breeding Fibre Crops	3(2-2)
	PBG-603	Breeding Pulse Crops	3(2-2)
	PBG-605	Breeding Vegetable and Fruit Crops	3(2-2)
	PBG-607	Fundamentals of Plant Biometry	3(2-2)
	PBG-609	Modern Techniques in Plant Breeding	3(2-2)
◆ Plant Pathology	PP-601	Plant Disease Management	3(2-2)
	PP-603	Introductory Range and Forest Pathology	3(2-2)
	PP-605	Seed and Postharvest Pathology	3(2-2)
	PP-607	Plant Disease Epidemiology	3(2-2)
	PP-609	Plant Quarantine and SPS Measures	3(2-2)
	PP-611	Biotechnology and Its Application in Plant Pathology	3(2-2)

SEMESTER VIII

	COURSE	TITLE OF COURSE	CREDITS
◆ <u>Agricultural Extension</u>	AEC-608	Internship/Scientific Report Writing	5(0-10)
◆ <u>Agricultural Economics</u>	AE-608	Internship/Scientific Report Writing	5(0-10)
◆ <u>Agronomy</u>	AGR-608	Internship/Scientific Report Writing	5(0-10)
◆ <u>Entomology</u>	ENT-608	Internship/Scientific Report Writing	5(0-10)
◆ <u>Food Technology</u>	FT-608	Internship/Scientific Report Writing	5(0-10)
◆ <u>Horticulture</u>	HORT-608	Internship/Scientific Report Writing	5(0-10)
◆ <u>Plant Breeding & Genetics</u>	PBG-608	Internship/Scientific Report Writing	5(0-10)
◆ <u>Plant Pathology</u>	PP-608	Internship/Scientific Report Writing	5(0-10)

SCHEME OF STUDIES FOR BS(FORESTRY) PROGRAMME

I SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	BIOL-301	Biology - I	3(2-2)
2	MATH-301	Mathematics - I	3(3-0)
3	ENG-301	Functional English	3(3-0)
4	SSH-301	Pakistan Studies	2(2-0)
5	FR-301	Introduction to Forestry	3(2-2)
6	AGRO-301	Basic Agriculture	3(2-2)
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II SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	ENG-302	Communication Skills	3(3-0)
2	IS-302/ET-302	Islamic Studies/Ethics	2(2-0)
3	SS-302	Introduction to Soil Science	3(2-2)
4	FR-304	Introduction to Wildlife	2(1-2)
5	FR-306	Forestry and Climate Change	3(3-0)
6	SOC-308	Introduction to Sociology	3(3-0)
7	SOS-301	Moral Foundation of Education	2(2-0)
			<u>18</u>

III SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	STAT-401	Introduction to Statistics	3(3-0)
2	PBG-401	Introductory Genetics	2(1-2)
3	ENT-401	Introductory Entomology	2(1-2)
4	ECON-301	Introduction to Economics	3(3-0)
5	FR-403	Forest Accounts & Procedures	3(3-0)
6	FR-405	Marketing Agro Forestry Products	2(2-0)
7	FR-407	Introduction to Forest Pathology	3(2-2)
			<u>18</u>

IV SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	FR-402	Forest Engineering	3(2-2)
2	FR-404	Basics of Wildlife Management	3(3-0)
3	FR-406	Participatory Forestry	3(3-0)
4	FR-408	Livestock Nutrition and Grazing Management	3(3-0)
5	FR-410	Forest Utilization	3(3-0)
6	FR-412	Forestry Extension	3(3-0)
			<u>18</u>

V SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	FR-501	Silviculture - I	3(3-0)
2	FR-505	Range Management	3(2-2)
3	FR-507	Forest Biometrics	3(2-2)
4	FR-509	Tree Morphology and Physiology	3(2-2)
5	FR-511	Environmental Forestry	2(2-0)
6	FR-515	Forest Survey and Leveling	3(2-2)
			17

VI SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	FR-502	Silviculture - II	3(2-2)
2	FR-504	Watershed Management	3(2-2)
3	FR-506	Wood Science and Technology	3(2-2)
4	FR-508	Range Vegetation-Livestock Interactions	3(3-0)
5	FR-510	Forest Policy and Law	3(3-0)
			15

VII SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	FR-601	Forest Management	3(3-0)
2	FR-603	Forest Resource Economics	2(2-0)
3	FR-605	Non-Wood Forest Products	2(2-0)
4	FR-607	Application of GIS and Remote Sensing in Forestry	3(2-2)
5	FR-609	Forest and Range Biodiversity	3(3-0)
6	FR-611	Forest Ecology	2(2-0)
7	FR-302	Principles of Agroforestry	2(2-0)
			17

VIII SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	FR-602	Forest Management Plan - I	3(3-0)
2	FR-604	Forest Management Plan - II	4(0-8)
3	FR-608	Project Planning and Scientific Writing	4(2-4)
4	FR-610	Ecotourism and Park Management	3(3-0)
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Scheme of Studies for M.Sc. (Hons.) Agri. / Ph.D. Agri.

Scheme of Studies for M.Sc (Hons.) Agricultural Extension

COURSE	TITLE OF COURSE	CREDITS
AE-701	Agricultural Extension Methods	3(2-2)
AE-702	Programme Planning	3(2-2)
AE-703	Supervised Field Experience	3(0-6)
AE-704	Monitoring and Evaluation in Agricultural Extension	3(2-2)
AE-705	Communication Strategies in Agricultural Extension	3(2-2)
AE-706	Development of Training Programmes	3(2-2)
AE-707	Scientific and Technical Writing	3(1-4)
AE-708	Applications of ICTs in Agricultural Extension	3(2-2)
AE-709	Human Resource Management	3(2-2)
AE-710	Gender Main Streaming for Community Development	3(2-2)
AE-711	International Agricultural Extension Systems	3(2-2)
AE-712	Adult and Continuing Education	3(3-0)
AE-713	Management in Agricultural Extension	3(3-0)
AE-714	Sustainable Rural Livelihoods	3(3-0)
AE-715	Interviewing	3(2-2)
AE-716	Advanced Research Methods	3(2-2)
AE-717	Market-Led Agricultural Extension and Entrepreneurship	3(2-2)
AE-718	Participatory Approach to Agricultural Extension & Rural Development	3(2-2)
AE-719	Special Problem	1(1-0)
AE-720	Seminar	1(1-0)
AE-799	Research & Thesis [M.Sc (Hons.)]	10(0-20)

Scheme of Studies for M.Sc (Hons.) Communication for Agricultural Development (CAD)

Program Requirement

	Credit Hours
Core Courses	18-24
Minor Courses*	9-12
Thesis	6(0-12)
Total	27-36

*Stat is compulsory minor course and others are optional

COURSE	TITLE OF COURSE	CREDITS
CAD-701	Development Theory, Policy and Practice	3(3-0)
CAD-702	Communication for Development and Social Change	3(3-0)
CAD-703	Advanced Research Methods	3(2-2)
CAD-704	Rural Development	3(3-0)
CAD-705	Field Study: The Case Study (Internship)	3(0-6)
CAD-706	Gender and Youth in Development	3(3-0)
CAD-707	Information and Communication Technologies in Development	3(2-2)
CAD-708	Community Development and Empowerment	3(3-0)
CAD-709	Writing Skills and Print Media Production	3(1-4)
CAD-710	Journalism Ethics and Laws	3(3-0)
CAD-711	Cyber Extension	3(3-0)
CAD-712	Mass Media Production and Presentation	3(2-2)
CAD-799	Thesis	6(0-12)

Scheme of Studies for M.Sc (Hons.) Agri./Ph.D Agri. in Agronomy

COURSE	TITLE OF COURSE	CREDITS
AGR-701	Modern Crop Production	3(2-2)
AGR-702	Advanced Agronomy	3(2-2)
AGR-703	Dryland Agro Management	3(3-0)
AGR-704	Crop Environment	3(2-2)
AGR-705	Sustainable Agriculture	3(3-0)
AGR-706	Weed Management	3(2-2)
AGR-707	Field Crop Experimentation	4(3-2)
AGR-708	Advanced Seed Technology	3(2-2)
AGR-709	Herbicides and Crop Production	3(2-2)
AGR-710	Crop Nutrition	3(2-2)
AGR-711	Recent Advances in Agronomy	3(3-0)
AGR-712	Plant Water Relations	3(2-2)
AGR-713	Seed Physiology	3(2-2)
AGR-714	Agro-environment Conservation	3(3-0)
AGR-715	Seed Production and Management	3(2-2)
AGR-716	Principles of Remote Sensing	3(2-2)
AGR-717	Integrated Agriculture	3(3-0)
AGR-718	Crop Modeling	3(2-2)
AGR-719	Special Problem	1(1-0)
AGR-720	Seminar-I	1(1-0)
	Seminar-II	1(1-0)
AGR-799	Research & Thesis [M.Sc. (Hons.)]	10(0-20)
AGR-799	Research & Thesis (Ph.D)	50(0-100)

Scheme of Studies for M.Sc (Hons.) Agri./Ph.D Agri. in Entomology

<u>COURSE</u>	<u>TITLE OF COURSE</u>	<u>CREDITS</u>
ENT-701	Research Methods in Entomology	4(2-4)
ENT-702	Origin and Phylogeny of Insects	3(3-0)
ENT-703	Environmental Entomology	2(2-0)
ENT-704	Advanced Insect Morphology	3(2-2)
ENT-705	Advanced Insect Ecology	3(2-2)
ENT-706	Numerical Taxonomy	3(2-2)
ENT-707	Advanced Insect Physiology and Embryology	3(2-2)
ENT-708	Molecular Entomology	3(2-2)
ENT-709	Insecticide Resistance and Management	3(2-2)
ENT-710	Insects in Relation to Plant Diseases	3(2-2)
ENT-711	Medical and Veterinary Entomology	3(2-2)
ENT-712	Acarology	3(2-2)
ENT-713	Classification of Immature Insects	3(2-2)
ENT-714	Insecticides Toxicology	3(2-2)
ENT-715	Insect Nutrition	3(2-2)
ENT-716	Insecticide and Public Health	3(2-2)
ENT-717	Advances in Biological Control of Insect Pests	3(2-2)
ENT-718	Advances in Insect Behaviour	3(2-2)
ENT-719	Special Problem	1(1-0)
ENT-720	Seminar-I	1(1-0)
ENT-720	Seminar-II	1(1-0)
ENT-721	Pesticides Application Equipments	3(1-4)
ENT-722	Advances in Pest Management Research	3(2-2)
ENT-723	Insect Cytogenetics and Cytotaxonomy	3(2-2)
ENT-724	Insect Pathology	3(2-2)
ENT-725	Insect Biochemistry	3(2-2)
ENT-726	Chemical Ecology of Insects	3(3-0)
ENT-727	Forensic Entomology	3(2-2)
ENT-728	Insect Neurobiology	3(2-2)
ENT-729	Insect Rearing Techniques	3(2-2)
ENT-799	Research & Thesis [M.Sc.(Hons.)]	10(0-20)
ENT-799	Research & Thesis (Ph.D)	50(0-100)

Scheme of Studies for M.Sc (Hons.) Agri./Ph.D Agri. In Horticulture

<u>COURSE</u>	<u>TITLE OF COURSE</u>	<u>CREDITS</u>
HORT-701	Mineral Nutrition of Horticultural Crops	3(2-2)
HORT-702	Plant Growth Regulators	3(2-2)
HORT-703	Environmental Horticulture	3(2-2)
HORT-704	Plant Tissue Culture	3(1-4)
HORT-705	Prospective Horticultural Crops	3(2-2)
HORT-706	Rootstock for Horticultural Crops	3(2-2)
HORT-707	Fruit Breeding	3(2-2)
HORT-708	Citriculture	3(2-2)
HORT-709	Mango and Date Palm Culture	3(2-2)
HORT-710	Minor Fruits	3(2-2)
HORT-711	Vegetable Breeding	3(2-2)
HORT-712	Vegetables Seed Production and Marketing	3(2-2)
HORT-713	Solanaceous Crops	3(2-2)
HORT-714	Viticulture	3(2-2)
HORT-715	Mushroom Biology and Technology	3(2-2)
HORT-716	Landscape Designs	3(2-2)
HORT-717	Turfgrass Management	3(2-2)
HORT-718	Advanced Fruit Science	3(2-2)
HORT-719	Special Problem	1(0-2)
HORT-720	Seminar-I	1(1-0)
	Seminar-II	1(1-0)
HORT-721	Horticulture Seed Science and Technology	3(2-2)
HORT-722	Biotechnology of Horticultural Crops	3(2-2)
HORT-723	Physiology of Horticultural Plants	3(2-2)
HORT-724	Post-Harvest Physiology	3(2-2)
HORT-725	Horticultural Production under Abiotic Stresses	3(2-2)
HORT-726	Advanced Vegetables Science	3(2-2)
HORT-727	Landscape Ecology	3(3-0)
HORT-728	Oliviculture	3(2-2)
HORT-799	Research & Thesis [M.Sc.(Hons.)]	10(0-20)
HORT-799	Research & Thesis (Ph.D)	50(0-100)



Scheme of Studies for M.Sc (Hons.) Agri./Ph.D Agri. in Plant Breeding & Genetics

Course No.	Course Title	Credit Hours
PBG-701	Principles of Plant Breeding	3(2-2)
PBG-702	Advanced Genetics	3(3-0)
PBG-703	Molecular Plant Breeding	3(2-2)
PBG-704	Cytogenetics of Crop Plants	3(2-2)
PBG-705	Breeding and Genetics of Fodder Crops	3(2-2)
PBG-706	Breeding for Stress Environments	3(2-2)
PBG-707	Mutation Breeding	3(2-2)
PBG-708	Population Genetics	3(3-0)
PBG-709	Cereal Genetics and Breeding	3(2-2)
PBG-710	Cotton Genetics and Breeding	3(2-2)
PBG-711	Genetics and Breeding of Oilseed Crops	3(2-2)
PBG-712	Genetics and Breeding of Sugar Crops	3(2-2)
PBG-713	Genetic Engineering in Plants	3(2-2)
PBG-714	Evolution of Field Crops	3(3-0)
PBG-715	Advanced Cytogenetics	3(3-0)
PBG-716	Plant Genomics	3(2-2)
PBG-717	Advanced Methods in Plant Breeding	3(2-2)
PBG-718	Genetics of Plant Disease and Insect Resistance	3(2-2)
PBG-719	Special Problem	1(1-0)
PBG-720	Seminar-I	1(1-0)
	Seminar-II (PhD)	1(1-0)
PBG-721	Development of Hybrid and Seed Production	3(2-2)
PBG-722	Biometrical Techniques in Plant Breeding	3(2-2)
PBG-799	Research & Thesis [M.Sc.(Hons.)]	10(0-20)
PBG-799	Research & Thesis (Ph.D)	50(0-100)



Scheme of Studies for M.Sc (Hons.) Agri./Ph.D Agri. in Plant Pathology



<u>Course No.</u>	<u>Course Title</u>	<u>Credit Hours</u>
PP-701	Fungal Plant Pathology*	3(2-2)
PP-702	Fungal Systematics	3(2-2)
PP-703	Plant Bacteriology*	3(2-2)
PP-704	Plant Nematology*	3(2-2)
PP-705	Bioinformatics in Plant Pathology	3(2-2)
PP-706	Plant Virology*	3(2-2)
PP-707	Biochemistry and Physiology of Diseased Plants	3(2-2)
PP-708	Genetics of Plant Pathogens	3(3-0)
PP-709	Seed Pathology	3(2-2)
PP-710	Post-Harvest Pathology	3(2-2)
PP-711	Vector Transmission of Plant Diseases	3(2-2)
PP-712	Ecology and Epidemiology of Plant Diseases	3(2-2)
PP-713	Plant Pathology and Environmental Concerns	3(3-0)
PP-714	Integrated Plant Disease Management	3(2-2)
PP-715	Plant Pathology and International Obligations	3(2-2)
PP-716	Molecular Plant Microbe Interactions**	3(2-2)
PP-717	Forest and shade tree Pathology	3(2-2)
PP-718	Advances in Plant Pathology**	3(3-0)
PP-719	Special Problem	1(1-0)
PP-720	Seminar-I	1(1-0)
	Seminar-II	1(1-0)
PP-721	Molecular Plant Virology	3(2-2)
PP-722	Biological Control of Plant Pathogens	3(2-2)
PP-723	Mycology-I	3(2-2)
PP-724	Mycology-II	3(2-2)
PP-799	Research & Thesis [M.Sc (Hons)]	10 (0-20)
PP-799	Research & Thesis (Ph.D)	50(0-100)

*Core courses for Msc (Hons) Specialization in Plant Pathology

**Core Courses for PhD

Scheme of Studies of M.Phil in Forestry and Range Management

COURSE	TITLE OF COURSE	CREDITS
FR-701	Range Vegetation Ecology	3(2-2)
FR-702	Advances in Forest Utilization	3(2-2)
FR-703	Agro Forestry Systems	3(2-2)
FR-704	Grazing Management of Rangelands	3(3-0)
FR-705	Forestry and Environment	3(3-0)
FR-706	Forest Biometrics and Resource Economics	3(2-2)
FR-707	Developments in Watershed Management	3(3-0)
FR-708	Research Methods and Communication	3(2-2)
FR-709	Forest Recreation and Park Management	3(3-0)
FR-710	Forest Microbiology	3(2-2)
FR-711	Forest Soil and Water Conservation	3(2-2)
FR-712	Pastoral Communities and Range Development	3(3-0)
FR-713	Drought Management in Rangelands	3(3-0)
FR-714	Forest Diseases and Pest Management	3(2-2)
FR-715	Functional Tree Biology	3(2-2)
FR-716	Adaptation of Forests to Climate Change	3(3-0)
FR-717	Forest Resource Management	3(3-0)
FR-718	Forest Ecology	3(3-0)
FR-719	Special Problem	1(1-0)
FR-720	Seminar-I	1(1-0)
	Seminar-II	1(1-0)

The faculty consists of different departments dealing with Statistics and Mathematics and Biological Sciences. The faculty offers postgraduate courses leading to the degrees of M.Sc. in Statistics, Mathematics, Biological Sciences, M.Phil and Ph.D. in Biological Sciences (Botany and Zoology).

Dean of the Faculty Prof. Dr. Mazhar Qayyum

Following departments are in the faculty.

I. DEPARTMENT OF BOTANY:

Chairperson	Prof. Dr. Abida Akram
Professors	Prof. Dr. Abdul Waheed Dr. Rahmat Ullah Qureshi
Associate Professor	Dr. Noshin Ilyas
Assistant Professors	Dr. M. Naveed Iqbal Raja Dr. Yamin Bibi Dr. Zia ur Rehman Mashwani Dr. Khafsa Malik
Lecturer	Dr. Saira Asif

III. DEPARTMENT OF BIOLOGY:

Chairman	Prof. Dr. Mazhar Qayyum
Lecturer	Dr. Ruqia Mehmood Baig

II. DEPARTMENT OF ZOOLOGY, WILDLIFE & FISHERIES:

Chairman	Prof. Dr. Shamim Akhtar
Professor	Dr. Mazhar Qayyum
Associate Professor	Dr. Muhammad Sajid Nadeem Dr. Tariq Mahmood
Assistant Professors	Dr. Amjad Rashid Kayani Dr. Muhammad Mushtaq Dr. M. Zubair Anjam Dr. Muhammad Rais Dr. Bushra Allah Rakha Dr. Abida Arshad Dr. Muhammad Irfan
Lecturer	Dr. Ruqia Mehmood Baig

IV. DEPARTMENT OF STATISTICS AND MATHEMATICS:

Offers BS Degree in Mathematics & Statistics and M.Phil degree in Statistics. The department also offers supporting courses to undergraduate and postgraduate classes in Faculty of Crop & Food Sciences, Faculty of Forestry Range Management & Wildlife, Faculty of Veterinary & Animal Sciences and Faculty of Agricultural Engineering and Technology.

Chairman	Dr. Muhammad Hanif
Assistant Professors	Dr. Saima Mustafa Mr. Nasir Jamal Dr. Saadia Masood Dr. Muhammad Jamal
Lecturers	Mr. Nasir Ali Ms. Beenish Shakir Dr. Sadia Medhit

BS (Botany, Zoology, Biology)

A. Minimum Academic Requirement:-

A person holding Intermediate with Pre-Medical subject or an equivalent certificate from any recognized Institute/College with at least 50% marks excluding Hafiz-e-Quran, or any other marks specified shall be eligible for admission to BS (Botany, Zoology, Biology)

B. Domicile

- For Morning program seats are for all Punjab and Islamabad Capital Territory.
- For Evening Program seats are for all Pakistan basis.
- Number of seats are Eighty (80) for Morning Program and Eighty (80) for evening program.

C. Admission Authority:-

- i. The Dean, Faculty of Sciences shall be responsible for admission to the program.
- ii. **AGE:** A candidate must not be more than 23 years of age on 1st October of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

D. Minimum Requirements for the Award of BS Degree:

- (i) The duration of the Course for completing the course for the degree of Bachelor of Sciences shall normally be eight semesters and maximum 12 semesters.
- (ii) The minimum course requirement is 133 credit hours.
- (iii) A full time student will be required to take courses not less than 12 credits hours in a semester.

To remain on the roll of the University a student shall require to maintain the following minimum CGP A in each

Semester	GPA/CGPA
1st	0.75
2nd	1.00
3rd	1.25
4th	1.50
5th	1.75
6th	2.00
7th	2.25
8th	2.50

E. Academic Standing:

Grade Point Average

- a. Maximum grade point average (GPA) 4.00
- b. Minimum grade point average for obtaining Degree (CGPA) 2.50

F. Explanation:

- i. A student who maintains the minimum GPA/CGPA for promotion and meets the requirements will be promoted to the next semester.
- ii. A student who does not meet the above requirements may repeat the whole semester once only.
- iii. If a student fails to achieve CGPA 2.5 in the 8th semester, he shall have to repeat the course/courses of lowest grade(s) to make CGPA of 2.5 within the maximum time allowed for the degree otherwise he/shall cease on the University roll.

BS Mathematics

A. i. Minimum Academic Requirement:-

a. A person holding Intermediate with Mathematics subject or an equivalent certificate from any recognized Institute/College with at least 50% marks excluding Hafiz-e-Quran, or any other marks specified shall be eligible for admission to BS Mathematics.

ii. Domicile

- For Morning program seats are for all Punjab and Islamabad Capital Territory.
- For Evening Program seats are for all Pakistan basis.
- Number of seats are Eighty (80) for Morning Program and Eighty (80) for evening program.

B. Admission Authority:-

- The Dean, Faculty of Sciences shall be responsible for admission to the program.
- AGE:** A candidate must not be more than 23 years of age on 1st October of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

C. Minimum Requirements for the Award of BS (Mathematics) Degree:

- The duration of the Course for completing the course for the degree of Bachelor of Sciences (Mathematics) shall normally be eight semesters and maximum 12 semesters.
- The minimum course requirement is 133 credit hours.
- A full time student will be required to take courses not less than 12 credits hours in a semester.

To remain on the roll of the University a student shall require to maintain the following minimum CGP A in each

Semester	GPA/CGPA
1st	0.75
2nd	1.00
3rd	1.25
4th	1.50
5th	1.75
6th	2.00
7th	2.25
8th	2.50

D. Academic Standing:

Grade Point Average

- a. Maximum grade point average (GPA) 4.00
- b. Minimum grade point average for obtaining Degree (CGPA) 2.50

E. Explanation:

- i. A student who maintains the minimum GPA/CGPA for promotion and meets the requirements will be promoted to the next semester.
- ii. A student who does not meet the above requirements may repeat the whole semester once only.
- iii. If a student fails to achieve CGPA 2.5 in the 8th semester, he shall have to repeat the course/courses of lowest grade(s) to make CGPA of 2.5 within the maximum time allowed for the degree otherwise he/shall cease on the University roll.

BS Statistics

Minimum Requirements for the Award of BS (Statistics) Degree:

- (i) The duration of the Course for completing the course for the degree of Bachelor of Sciences (Statistics) shall normally be eight semesters and maximum 12 semesters.
- (ii) The minimum course requirement is 136 credit hours.
- (iii) A full time student will be required to take courses not less than 12 credits hours in a semester.
- (iv) The course load per semester is 15-21 credit hours

Admission and Registration:**i. Minimum Academic Requirement:-**

- a. A person holding Intermediate with F.A, F.SC, ICS and I.Com or an equivalent certificate from any recognized Institute/College with at least 50% marks excluding Hafiz-e-Quran, or any other marks specified shall be eligible for admission to BS Statistics.

ii. Domicile

- a. For Morning program seats are for all Punjab and Islamabad Capital Territory.
- b. Two seats reserved for the children of University employees.
- c. For Evening Program seats are for all Pakistan basis.
- d. Number of seats are Eighty (80) for Morning Program and Eighty (80) for evening program.

To remain on the roll of the University a student shall require to maintain the following minimum CGP A in each

Semester	GPA/CGPA
1st	0.75
2nd	1.00
3rd	1.25
4th	1.50
5th	1.75
6th	2.00
7th	2.25
8th	2.50

Admission Authority:

- i. The Dean, Faculty of Sciences shall be responsible for admission to the program.
- ii. AGE: A candidate must not be more than 23 years of age on 1 st October of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

Academic Standing:

Grade Point Average

Maximum grade point average (GPA) 4.00

Minimum grade point average for obtaining Degree (CGPA) 2.50

Explanation:

- i. A student who maintains the minimum OPA/CGPA for promotion and meets the requirements will be promoted to the next semester.
- ii. A student who does not meet the above requirements may repeat the whole semester once only.
- iii. If a student fails to achieve CGPA 2.5 in the s" semester, he shall have to repeat the course/courses of lowest grade(s) to make CGPA of 2.5 within the maximum time allowed for the degree otherwise he/shall cease on the University roll.

Degree Prerequisites

Intermediate (F.Sc., F.A., ICS and I.Com)

Master of Philosophy (M.Phil):-

In Biology, Botany, Zoology and Statistics with a minimum of 4 and maximum of 6 semesters duration for full time student and a minimum of 6 and maximum of 8 semesters for part time students

ADMISSION TO THE COURSE:-

The candidate seeking admission to the course for the M.Phil Degree must have passed the BS/M.Sc. Examination in aggregate with CGPA not less than 2.50 or with 50% of the marks secured under Annual Examination system or its equivalent in the field of study or related disciplines from HEC recognized institutions. Must have passed University Entrance Test, as per advertisement for admission. Merit will be based on aggregate which is calculated on the basis of 60% (previous degree marks) and 40% (test marks).

ACADEMIC STANDING:

- (i) **Grade Point Average:**
- | | |
|---|------|
| Maximum grade point average | 4.00 |
| Minimum grade point average for obtaining M.Phil Degree | 2.50 |

Semester	CGPA
1st	1.50
2nd	1.75
3rd	2.00
4th	2.50

- (ii) To remain on the rolls of the University a student shall be required to maintain the following GPA/CGPA in each semester.

- (iii) A student, who obtains CGPA of 2.00 or above but less than 2.50, upon the completion of entire approved course work or minimum residency, may be allowed to repeat the courses of the previous semesters in which he/she had obtained the lowest grades in order to improve the CGPA so as to obtain the minimum of 2.50 within the maximum time allowed for the award of degree, failing which he/she shall cease to be on the roll.
- (iv) A student will be required to repeat those courses of the previous semesters in which he/she had failed at the first available opportunity, provided that his/her maximum workload, including the courses being repeated by him/her will not exceed the normal workload.

Ph.D.

Ph.D. degree program in the disciplines of Botany and Zoology with a minimum of 6 semesters duration and maximum 16 semesters duration. Residency period for part time student is minimum of 8 semesters.

Admission to Course:

A candidate seeking admission to the course for the Degree of Doctor of Philosophy in full and partial residence must:

- (i) have passed the M.Phil Degree Examination or an equivalent examination in 1st division or with CGPA 3.00 out of 4.00 from a recognized institution in a field of study related to the subject, he/ she desires to take up.
- (ii) meet all the requirements mentioned in these regulations.
- (iii) the applications of the candidates must be accompanied with a comprehensive research proposal that he/ she intends to undertake. The candidates will also be required to defend the proposal in an open seminar after admission before undertaking the research study.
- (iv) must have passed University Entrance Test with 70% marks.

ACADEMIC STANDING:

- (i) **Grade Point Average:** Grade points will be as follow:
 - a. Maximum grade point average 4.00
 - b. Minimum grade point average for obtaining the degree 3.00
- (ii) To remain on the rolls of the University a student shall be required to maintain the minimum CGPA of 3.00.
- (iii) A student who obtains CGPA less than 3.00 may be allowed to repeat once the courses of the previous semesters in which he/ she had failed.
- (iv) For admission to Ph.D programmes in Botany and Zoology, minimum criteria will be followed as per HEC policy.

SCHEME OF STUDIES FOR BS(Botany)

Semester-I

Course Code	Title of Course	Credit Hours
ENG-301	English-I: Functional English	3(3-0)
SSH-301	Pakistan Studies	2(2-0)
MATH-301	Mathematics	3(3-0)
ZOOL-311	Invertebrates Diversity	3(2-2)
CHEM-301	Physical Chemistry	3(2-2)
BOT-301	Diversity of Plants	4(3-2)

Semester-II

Course Code	Title of Course	Credit Hours
SSH-303	Professional Ethics (in place of ENG IV)	3(3-0)
ENG-302	English-II: Communication Skills	3(3-0)
IS/ET-401	Islamic Studies / Ethics	2(2-0)
ZOOL-312	Chordates Diversity	3(2-2)
CHEM-302	Inorganic Chemistry	3(2-2)
BOT-302	Plants Systematics, Anatomy and Development/Embryology	4(3-2)

Semester-III

Course Code	Title of Course	Credit Hours
ENG-401	English-III: Technical writing & Presentation skills	3(3-0)
CS-402	Introduction to Computing	3(2-2)
CHEM-401	Organic Chemistry	3(2-2)
RGS-303	Introduction to Global Information System	3(2-2)
BOT-401	Cell Biology, Genetics and Evolution	4(3-2)

Semester-IV

Course Code	Title of Course	Credit Hours
ZOOL-411	Animal Form and Function	3(2-2)
FR-401	Introduction to Forest & Range Management	3(2-2)
BOT-402	Plant Physiology and Ecology	4(3-2)
BOT-403	Biodiversity and Conservation	4(3-2)
STAT-406	Biostatistics	3(2-2)

Semester-V

Course Code	Title of Course	Credit Hours
BOT-501	Plant Ecology-I	3(2-2)
BOT-502	Bacteriology and Virology	3(2-2)
BOT-503	Plant Physiology-I	3(2-2)
BOT-504	Plant Biochemistry-I	3(2-2)
BOT-505	Genetics-I	3(2-2)
BOT-506	Plant Systematics	3(2-2)

Semester-VI

Course Code	Title of Course	Credit Hours
BOT-507	Plant Anatomy	3(2-2)
BOT-508	Diversity of Vascular Plants	3(2-2)
BOT-509	Plant Ecology-II	3(2-2)
BOT-510	Plant Physiology-II	3(2-2)
BOT-511	Plant Biochemistry-II	3(2-2)
BOT-512	Genetics-II	3(2-2)

List of Optional Courses

Course Code	Title of Course	Credit Hours
BOT-610	Aromatic, Poisonous & Medicinal plants	3(2-2)
BOT-611	Stress Physiology	3(2-2)
BOT-612	Plant Nutrition	3(2-2)
BOT-613	Forensic Botany	3(3-0)
BOT-614	Nanobiotechnology	3(2-2)
BOT-615	Plant Microbe Interaction	3(2-2)
BOT-616	Cytology and Cytogenetics	3(2-2)
BOT-617	Biosafety and Bioethics	3(3-0)
BOT-618	Plant Biotechnology	3(2-2)

Semester-VII

Course Code	Title of Course	Credit Hours
BOT-601	Environmental Biology	3(2-2)
BOT-602	Mycology and Plant Pathology	3(2-2)
BOT-603	Phycology and Bryology	3(2-2)
BOT-604	Molecular Biology	3(2-2)
BOT-605	Research Techniques & Instrumentation	3(2-2)
BOT-	Optional course-I	3 (-)

Semester-VIII

Course Code	Title of Course	Credit Hours
BOT-606	Principles of Pharmacognosy and Phytochemistry	3(2-2)
BOT-607	Economic Botany	3(2-2)
BOT-620	Seminar	1(1-0)
BOT-608 / BOT 609*	Research Project/Internship/Special paper (*Research planning and report writing)	3(0-6) 3(1-4)
BOT-	Optional course-II	3(-)

SCHEME OF STUDIES FOR BS(Biology)

Semester-I

Course Code	Title of Course	Credit Hours
ENG-301	English-I: Functional English	3(3-0)
SSH-301	Pakistan Studies	2(2-0)
CHEM-301	Physical Chemistry	3(2-2)
BOT 311	Plant Diversity	3(2-2)
ZOOL-311	Invertebrates Diversity	3(2-2)
BIOL-301	Biosystematics	4(3+2)

Semester-II

Course Code	Title of Course	Credit Hours
ENG-302	English-II: Communication Skills	3(3-0)
IS/ET-401	Islamic Studies / Ethics	2(2-0)
CHEM-302	Inorganic Chemistry	3(2-2)
BOT 312	Plant anatomy and Systematics	3(2-2)
ZOOL-312	Chordates Diversity	3(2-2)
BIOL-302	Biodiversity	4(3+2)

Semester-III

Course Code	Title of Course	Credit Hours
ENG-401	English-III: Technical writing and presentation skills	3(3-0)
CS-402		3(2-2)
CHEM-401	Introduction to Computing	3(2-2)
BOT-411	Organic Chemistry	3(2-2)
ZOOL-411	Plant Ecology and Plant Physiology	3(2-2)
BIOL-401	Animal form and Functions	3(2+2)

Semester-IV

Course Code	Title of Course	Credit Hours
BIOL-402	Biosafety & Bioethics (in place of ENG IV)	3(3-0)
STAT-406	Biostatistics	3(2-2)
MATH-301	Mathematics	3(2-2)
BIOL-403	General Biochemistry	3(2+2)
BIOL-404	Microbiology and Immunology	3(2+2)
BIOL-405	Principles of Genetics	3(2+2)

Semester-V

Course Code	Title of Course	Credit Hours
BIOL-501	Environmental Biology	3(2+2)
BIOL-502	Paleobiology	3(2+2)
BIOL-503	Molecular Biology	3(2-2)
BIOL-504	Economic Biology	3(2-2)
BIOL-505	Developmental Biology	3(2-2)
BIOL-506	Plant Physiology	3(2-2)

Semester-VI

Course Code	Title of Course	Credit Hours
BIOL-507	Principles of Biotechnology	3(2-2)
BIOL-508	Reproductive Biology	3(2-2)
BIOL-509	Freshwater Biology	3(2-2)
BIOL-510	Animal Physiology	3(2-2)
BIOL-511	Biological Techniques	3(2-2)
BIOL-512	Evolutionary Biology	3(2-2)

List of Optional Courses

Course Code	Title of Course	Credit Hours
BIOL-606	Amino Acids and Proteins	3(2-2)
BIOL-607	Biomembranes and Cell Signaling	3(3-0)
BIOL-608	Genomics	3(3-0)
BIOL-609	Proteomics	3(3-0)
BIOL-610	Neurology and Neurochemistry	3(2-2)
BIOL-611	Human Genetics	3(2-2)
BIOL-612	Fish Biology	3(2-2)
BIOL-613	Pathophysiology	3(2-2)
BIOL-614	Parasitology	3(2-2)
BIOL-615	Virology	3(2-2)
BIOL-616	Apiculture and Sericulture	3(2-2)
BIOL-617	Aromatic, Poisonous & Medicinal Plants	3(2-2)
BIOL-618	General Pharmacognosy	3(2-2)
BIOL-621	Mycology	3(2-2)
BIOL-622	Nanobiotechnology	3(2-2)
BIOL-623	Plant-Microbe Interactions	3(2-2)

Semester-VII

Course Code	Title of Course	Credit Hours
BIOL-601	Bioinformatics	3(2-2)
BIOL-602	Animal Behavior	3(2-2)
BIOL-603	Research planning and report writing	3(1-4)
BIOL-	Optional Paper-I*	3(-)
BIOL-	Optional Paper-II*	3(-)

Semester-VIII

Course Code	Title of Course	Credit Hours
BIOL-604	Population Biology	3(2-2)
BIOL-605	Research Project/Internship/Optional Course*	3 (-)
BIOL-620	Seminar	1(1-0)
BIOL-	Optional Course-III*	3(-)
BIOL-	Optional Course-IV*	3(-)

SCHEME OF STUDIES FOR BS(Zoology)

Semester-I

Course Code	Title of Course	Credit Hours
ENG-301	English-I: Functional English	3(3-0)
SSH-301	Pakistan Studies	2(2-0)
MATH-303	General Mathematics	3(3-0)
BOT-311	Plant Diversity	3(2-2)
CHEM-301	Physical Chemistry	3(2-2)
ZOOL-301	Animal Diversity- (Invertebrates)	4(3-2)

Semester-II

Course Code	Title of Course	Credit Hours
ENG-302	English-II: Communication Skills	3(3-0)
IS/ET-302	Islamic Studies / Ethics	2(2-0)
BOT-312	Plant Anatomy and Systematics	3(2-2)
CHEM-302	Inorganic Chemistry	3(2-2)
ZOOL-302	Animal Diversity-II (Chordates)	4(3-2)
ZOOL-303	Principles of Cell Biology	3(2-2)

Semester-IV

Course Code	Title of Course	Credit Hours
Zool-403	Fundamentals of Microbiology & Immunology	3(2-2)
Zool-404	Animal Behavior	3(3-0)
Zool-405	Biological Techniques	3(1-4)
Zool-402	Animal Form & Function-II	4(3-2)
Zool-406	Biochemistry-I	3(2-2)
RSG-407	Geography	2(2-0)

Semester-III

Course Code	Title of Course	Credit Hours
ENG-401	English-III: Technical writing and presentation skills	3(3-0)
CS-402	Introduction to Computing	3(1-4)
BOT-411	Plant Ecology and Physiology	3(2-2)
CHEM-401	Organic Chemistry	3(2-2)
SOC-301	Introduction to Sociology	2(2-0)
ZOOL-401	Animal Form & Function-I	4(3-2)

Semester-V

Course Code	Title of Course	Credit Hours
Zool -501	Economic Zoology	3(2-2)
Zool-502	Biochemistry-II	3(2-2)
Zool -503	Animal Physiology	4(3-2)
Zool-504	Environmental Biology	3(2-2)
Zool-505	Evolutionary Biology	3(2-2)

Semester-VI

Course Code	Title of Course	Credit Hours
Zool-506	Research Methodology	2(2-0)
Zool-507	Principles of Systematics	3(2-2)
Zool-508	Developmental Biology	4(3-2)
Zool-509	Principles of Genetics	4(3-2)
Zool-510	Introduction to Wildlife	3(2-2)

List of Optional Courses to be offered in VI and VIII semester BS Zoology

Course Code	Title of Course
ZOOL-604	Bacterial Genetics
ZOOL-605	Biotechnology
ZOOL-606	Comparative Developmental Biology
ZOOL-607	Analysis of Development
ZOOL-608	Biotechnology in Aquaculture
ZOOL-609	Hematology
ZOOL-610	Basic Human Genetics
ZOOL-611	Biology of Cancer
ZOOL-612	Endocrinology
ZOOL-613	Molecular Genetics
ZOOL-614	Neurobiology
ZOOL-615	Aquaculture
ZOOL-616	Fish Culture
ZOOL-617	Limnology
ZOOL-618	Epidemiology and Public Health
ZOOL-619	Epidemiology of Parasitic Disease
ZOOL-620	Microbial Biotechnology
ZOOL-621	Vector Biology
ZOOL-622	Helminthology & Host-Parasite Relationship
ZOOL-623	Protozoology and Immunology
ZOOL-624	Reproductive Biology
ZOOL-625	Behavioural Ecology
ZOOL-626	Population Biology
ZOOL-627	Entomology (Classification of Insects & Pest Management)
ZOOL-628	Mammalogy
ZOOL-629	Ornithology

Semester-VII

Course Code	Title of Course	Credit Hours
ZOOL-601	Molecular Biology	3(2-2)
STAT-623	Biostatistical Analysis	3(2-2)
	Optional course	
	Optional course	
	Optional course	

Semester-VIII

Course Code	Title of Course	Credit Hours
ZOOL-602	Bioinformatics	3(1-4)
	Research Project/ Internship/ Optional Course	3(0-6)/ 3(3-0)/ 3(2-2)/ 4(3-2)
	Optional course	
	Optional course	
	Optional course	
ZOOL-603	Zoogeography & Paleontology	3(2-2)

List of courses offered to BS Botany

Course Code	Title of Course
ZOOL-311	Animal diversity I (Invertebrates)
ZOOL-312	Animal diversity II (chordates)
ZOOL-411	Animal form and function

SCHEME OF STUDIES FOR BS(Mathematics)

Semester-I

Course Code	Title of Course	Credit Hours
ENG-301	Functional English	3(3-0)
SSH-301	Pakistan Studies	2(2-0)
CS-300	Introduction to Communication Technologies & Computing Tools	4(2-2)
MATH-301	Calculus & Analytical Geometry-I	3(0-0)
MATH-302	Set Theory and Logic	3(0-0)
STAT-301	Introductory Statistics	3(3-0)

Semester-II

Course Code	Title of Course	Credit Hours
ENG-302	Communication Skills	3(3-0)
IS/ET-302	Islamic Studies / Ethics	2(2-0)
CS-301	Software Packages	4(2-2)
SOS-301	Moral Function of Education	2(2-0)
MATH-303	Calculus & Analytical Geometry-II	3(3-0)
STAT-302	Introduction to probability and probability Distributions	3(3-0)

Semester-IV

Course Code	Title of Course	Credit Hours
SSH-305	Foreign Languages	3(3-0)
PHY-402	Waves & Oscillations	3(3-0)
MATH-404	Vector & Tensor Analysis	3(3-0)
MATH-405	Linear Algebra	3(3-0)
MATH-406	Introduction to Ordinary Differential Equations	3(3-0)
MATH-407	Number Theory	3(3-0)

Semester-III

Course Code	Title of Course	Credit Hours
ENG-401	Technical writing & presentation skills	3(3-0)
PHY-401	Mechanics	3(3-0)
MATH-401	Vector Calculus & Complex Numbers	3(3-0)
MATH-402	Discrete Mathematics	3(3-0)
MATH-403	Algebra	3(3-0)
MGT-391	Business Mathematics	3(3-0)

Semester-V

Course Code	Title of Course	Credit Hours
MATH-501	Real Analysis-I	3(0-0)
MATH-502	Group Theory	3(0-0)
MATH-503	Ordinary Differential Equations	3(0-0)
MATH-504	Analytical Mechanics	3(0-0)
CS-323	Programming Fundamentals	4(3-2)

Semester-VI

Course Code	Title of Course	Credit Hours
MATH-505	Real Analysis-II	3(0-0)
MATH-506	Partial Differential Equations	3(0-0)
MATH-507	Numerical Analysis	3(0-0)
MATH-508	Complex Analysis	3(0-0)
MATH-509	Topology	3(0-0)
ECON-507	Mathematics for Economists	3(0-0)

List of Elective Courses

Course Code	Title of Course	Credit Hours
MATH-605	Integral Equations	3(3-0)
MATH-606	Fluid Mechanics	3(3-0)
MATH-607	Combinatorics	3(3-0)
MATH-608	Special Functions	3(3-0)
MATH-609	Modeling and Simulation	3(2-2)
MATH-610	Optimization	3(3-0)
MATH-611	Analytical Dynamics	3(3-0)
MATH-612	Quantum Mechanics	3(3-0)
MATH-613	Special Relativity	3(3-0)
MATH-614	Galois Theory	3(3-0)
MATH-615	Measure Theory	3(3-0)
MATH-616	Advanced Complex Analysis	3(3-0)
MATH-617	Operations Research	3(3-0)

Semester-VII

Course Code	Title of Course	Credit Hours
MATH-601	Functional Analysis	3(3-0)
MATH-602	Mathematical Physics	3(3-0)
MATH-603	Differential Geometry	3(3-0)
MATH-604	Rings and Fields	3(3-0)
MATH-	Elective-I	3(3-0)

Semester-VIII

Course Code	Title of Course	Credit Hours
MATH-	Elective-II	3(3-0)
MATH-	Elective-III	3(3-0)
MATH-	Elective-IV	3(3-0)
MATH-618	Research Project	3(0-3)
MATH-620	Seminar	1(1-0)

SCHEME OF STUDIES FOR BS(Statistics)

Semester-I

Course Code	Title of Course	Credit Hours
ENG-301	Functional English	3(3-0)
SSH-301	Pakistan Studies	2(2-0)
MATH-301	Mathematics- (Algebra)	3(3-0)
ECON-301	Introduction to Economics	3(3-0)
PSY-301	Introduction to psychology	3(3-0)
STAT-301	Introductory Statistics	3(3-0)



Semester-II

Course Code	Title of Course	Credit Hours
ENG-302	Communication Skills	3(3-0)
IS/ET-302	Islamic Studies / Ethics	2(2-0)
MATH-302	Mathematics-II (Calculus)	3(3-0)
STAT-302	Introduction to Probability and Probability Distributions	3(3-0)
SOS-301	Moral Foundation of Education	3(3-0)
SOC-301	Basics of Sociology	3(3-0)

Semester-IV

Course Code	Title of Course	Credit Hours
STAT-403	Introduction to Regression & Analysis of Variance	3(3-0)
STAT-404	Exploratory Data Analysis & Visualization	3(2-1)
STAT-405	Non parametric Methods	3(3-0)
SSH-305	Foreign Languages	3(3-0)
MATH-401	Theory of Matrices & Numerical Analysis	3(3-0)

Semester-III

Course Code	Title of Course	Credit Hours
ENG-402	Technical Writing & Presentation Skills	3(3-0)
CS-402	Introduction to Computer	3(1-2)
STAT-401	Basic Statistical Inference	3(3-0)
STAT-402	Applied Statistics	3(3-0)
ENV-301	Introduction to Environmental Science	3(3-0)
MATH-303	Mathematics-III (Geometry)	3(3-0)

Semester-V

Course Code	Title of Course	Credit Hours
STAT-501	Probability-I	3(3-0)
STAT-502	Sampling Techniques-I	3(3-0)
STAT-503	Design & Analysis of Experiments-I	3(3-0)
STAT-504	Statistical packages	3(1-2)
ECON-505	Economic Problems of Pakistan	3(3-0)

Semester-VI

Course Code	Title of Course	Credit Hours
STAT-505	Probability-II	3(3-0)
STAT-506	Sampling Techniques-II	3(3-0)
STAT-507	Design & Analysis of Experiments-II	3(3-0)
STAT-508	Regression Analysis	3(3-0)
STAT-509	Bayesian Statistics	3(3-0)
STAT-510	Research methodology	3(1-2)

List of Elective Courses

Course Code	Title of Course	Credit Hours
STAT-607	Reliability Analysis	3(3-0)
STAT-609	Official Statistics	3(3-0)
STAT-610	Robust Methods	3(3-0)
STAT-611	Survival Analysis	3(3-0)
STAT-612	Biostatistics	3(3-0)
STAT-613	Mathematical Models and Simulation	3(3-0)
STAT-614	Statistical Quality Control	3(3-0)
STAT-615	Categorical Analysis	3(3-0)
STAT-616	Population Studies	3(3-0)
STAT-617	Computational Analysis	3(3-0)
STAT-618	Actuarial Statistics-I	3(3-0)
STAT-621	Actuarial Statistics II	3(3-0)
STAT-622	Population Models	3(3-0)

Semester-VII

Course Code	Title of Course	Credit Hours
STAT-601	Statistical Inference-I	3(3-0)
STAT-603	Multivariate Analysis	4(4-0)
STAT-604	Econometrics	3(3-0)
STAT-606	Stochastic Process	3(3-0)
STAT-608	Time Series Analysis	3(3-0)

Semester-VIII

Course Code	Title of Course	Credit Hours
STAT-602	Statistical Inference-II	3(3-0)
STAT-		3(3-0)
STAT-		3(3-0)
STAT-		3(3-0)
STAT-		3(3-0)
STAT-620	Seminar	1(1-0)
STAT-624	Research Project	3(0-3)

OPTIONAL COURSES FOR M.Phil Biology

S.No.	Course No.	Course Title	Credit Hours
1	BIOL-712	Principles of Biotechnology	3(2-2)
2	BIOL-713	Plant Reproductive Biology	3(3-0)
3	BIOL-714	Biosociology	3(2-2)
4	BIOL-715	Cacti and Succulents	3(2-2)
5	BIOL-716	Aromatic, Poisonous and Medicinal Plants	3(2-2)
6	BIOL-717	Plant Adaptation to Arid Environment	3(2-2)
7	BIOL-718	Neurology and Neurochemistry	3(2-2)
8	BIOL-719	Special Problem	1(1-0)
9	BIOL-720	Seminar-I	1(1-0)
10	BIOL-720	Seminar-II	1(1-0)
11	BIOL-721	Fish Biology	3(2-2)
12	BIOL-722	Host/Parasite Interactions in Animals	3(2-2)
13	BIOL-723	Immunology	3(2-2)
14	BIOL-724	Conservation Biology	3(2-2)

S.No.	Course No.	Course Title	Credit Hours
15	BIOL-725	Animal Reproductive Biology	3(2-2)
16	BIOL-726	Patho-physiology	3(2-2)
17	BIOL-727	Population Biology	2(2-0)
18	BIOL-729	General Pharmacology	3(2-2)
19	BIOL-730	Conservation of Phytodiversity	3(2-2)
20	BIOL-731	Molecular Endocrinology	3(3-0)
21	BIOL-732	Myochondria and Plastids	3(3-0)
22	BIOL-733	Freshwater Biology	3(2-2)
23	BIOL-735	Physiology and Genetics of Biological Nitrogen Fixation	3(2-2)
24	BIOL-736	General Pharmacognosy	3(2-2)
25	BIOL-734	Molecular Evolution	3(3-0)
26	BIOL-799	Thesis	10(0-20)

SCHEME OF STUDIES FOR M.Phil BOTANY

S.No.	Course No.	Course Title	Credit Hours
1	BOT-701	Diversity in Non-Vascular Plants	3(2-2)
2	BOT-702	Plant and Cell Physiology-I	3(2-2)
3	BOT-703	Plant and Cell Physiology-II	3(2-2)
4	BOT-704	Phytosociology	3(2-2)
5	BOT-705	Plant Taxonomy and Embryology	3(2-2)
6	BOT-706	Diversity in Vascular Plants	3(2-2)
7	BOT-707	Plant Anatomy	3(2-2)
8	BOT-708	Mycology and Plant Pathology	3(2-2)
9	BOT-709	Plant Ecology	3(2-2)
10	BOT-710	Ethnobotany	3(2-2)
11	BOT-711	Environmental Pollution	3(2-2)
12	BOT-712	Research Planning and Report Writing	3(1-4)



S.No.	Course No.	Course Title	Credit Hours
13	BOT-713	Medicinal Plants of Pakistan	3(2-2)
14	BOT-714	Molecular Plant Development	3(3-0)
15	BOT-715	Phytogeography	3(2-2)
16	BOT-716	Research Techniques and Instrumentation	3(2-2)
17	BOT-717	Phytohormons	3(2-2)
18	BOT-718	Arid Zone Ecology	3(2-2)
19	BOT-719	Special Problem	1(1-0)
20	BOT-720	Seminar-I	1(1-0)
21	BOT-720	Seminar-II	1(1-0)
22	BOT-721	Stress Physiology	3(2-2)
23	BOT-722	Plant Nutrition	3(2-2)
24	BOT-723	Advances in Plant Physiology	3(3-0)
25	BOT-724	Molecular Basis of Morphogenesis	3(3-0)
26	BOT-725	Molecular Advances in Phytosystematics	3(3-0)
27	BOT-726	Environmental Toxicology and Bioremediation	3(2-2)

S.No.	Course No.	Course Title	Credit Hours
28	BOT-727	Environmental Biotechnology	3(3-0)
29	BOT-728	Principles of Genome Analysis and Genomics	3(3-0)
30	BOT-729	Biology of Halophytes	3(2-2)
31	BOT-730	Environmental Plant Physiology	3(2-2)
32	BOT-731	Conservation and Management of Plant Resources	3(1-4)
33	BOT-732	Plant Proteomics	3(2-2)
34	BOT-733	Physiological Genetics of Plants	3(3-0)
35	BOT-734	Forensic Botany	3(3-0)
36	BOT-735	Plant-Microbe Interactions	3(2-2)
37	BOT-736	Plant Systematics	3(2-2)
38	BOT-737	Applied Ethnobotany	3(2-2)
39	BOT-738	Advances in Phycology	3(2-2)
40	BOT-739	Nanobiotechnology	3(2-2)
41	BOT-740	Biosafety, Biopolicy and Bioethics	3(3-0)
42	BOT-741	Systematics of Angiosperms	3(3-0)
43	BOT-799	Thesis	10(0-20)

OPTIONAL COURSES FOR M.Phil Zoology

S.No.	Course No.	Course Title	Credit Hours
1	ZOOL- 712	Clinical Endocrinology	3(2-2)
2	ZOOL -713	Clinical Bacteriology	3(2-2)
3	ZOOL -714	Medical Virology	3(2-2)
4	ZOOL -715	Faunal Biodiversity of Pakistan	3(2-2)
5	ZOOL -716	Museology	3(0-6)
6	ZOOL -717	Reproductive Physiology	3(2-2)
7	ZOOL -718	Applied Reproductive Physiology	3(2-2)
8	ZOOL -719	Special Problem	1(1-0)
9	ZOOL -720	Seminar-I	1(1-0)
10	ZOOL -720	Seminar-II	1(1-0)
11	ZOOL -721	Helminthology and Protozoology	3(2-2)
12	ZOOL -722	Wildlife Conservation and Management	3(2-2)
13	ZOOL -723	Aquaculture System Management	3(2-2)
14	ZOOL -724	Fish Nutrition and Health	3(2-2)
15	ZOOL -725	Human Genetics	3(2-2)



OPTIONAL COURSES FOR M.Phil Zoology



S.No.	Course No.	Course Title	Credit Hours
16	ZOOL -726	Ecological and Microbial Genetics	3(2-2)
17	ZOOL -727	Epidemiology of Animal Parasites	3(2-2)
18	ZOOL -728	Cellular and Molecular Physiology	3(3-0)
19	ZOOL -730	Quantitative Zoology	3(2-2)
20	ZOOL -731	Behavioural Ecology	3(3-0)
21	ZOOL -732	Herpetology	3(2-2)
22	ZOOL -733	Ornithology	3(2-2)
23	ZOOL -734	Mammalogy	3(2-2)
24	ZOOL -735	Advances in Aquaculture	3(3-0)
25	ZOOL -737	Limnology	3(2-2)
26	ZOOL -738	Wildlife Ecology	3(3-0)
27	ZOOL -739	Wildlife Techniques & Data Analysis	3(3-0)
28	ZOOL -740	Molecular Parasitology	3(3-0)
29	ZOOL -741	Vector Biology	3(2-2)
30	ZOOL-742	Animal Diversity and Conservation	3(2-2)
31	ZOOL-743	Population Genetics	3(2-2)
32	ZOOL -799	Thesis	10(0-20)

Scheme of studies for Ph.D. in Biochemistry, Botany, Biology & Zoology

S.No.	Course No.	Course Title	Credit Hours
1	BCH-751	Advances in Biotechnology	3(3-0)
2	BOT-751	Integrated Biological Resource Management	3(3-0)
3	ZOOL-751	Project Planning, Monitoring & Evaluation	3(3-0)
4	ZOOL-752	Integrated Principles of Zoology	3(3-0)
5	STAT-702	Experimental Design & Computer Application	3(2-2)
6	BCH-720	Seminar-I, II	1(1-0)
7	BOT-720	Seminar-I, II	1(1-0)
8	ZOOL-720	Seminar-I, II	1(1-0)
9	BOT-799	Thesis	50(0-100)
10	ZOOL-799	Thesis	50(0-100)
11	BCH-799	Thesis	50(0-100)
12	ZOOL-753	Recent Advances in Animal Biotechnology	3(3-0)
13	ZOOL-754	Advances in Assisted Reproduction	3(3-0)
14	ZOOL-755	Biotechnology in Aquaculture and Fisheries	3(3-0)
15	ZOOL-756	Conservation Biology	3(2-2)

Scheme of Studies for M.Phil Statistics

S.No.	Course No.	Course Title	Credit Hours
1	STAT-751	Applied Experimental Designs	3(3-0)
2	STAT-752	Linear Models	3(3-0)
3	STAT-753	Applied Multivariate Analysis	3(3-0)
4	STAT-754	Bayesian Analysis	3(3-0)
5	STAT-755	Probability and Survival Analysis	3(3-0)
6	STAT-756	Applied Survey Sampling	3(2-2)
7	STAT-757	Applied Statistical Inference	3(3-0)
8	STAT-758	Research Methods	3(2-2)
9	STAT-759	Categorical Analysis	3(3-0)
10	STAT-760	Regression Analysis	3(3-0)
11	STAT-761	Probability and Stochastic Process	3(3-0)
12	STAT-762	Convergence in Probability	3(3-0)
13	STAT-763	Decision Theory	3(3-0)
14	STAT-764	Statistical Packages	3(1-4)
15	STAT-765	Applied Smoothing Techniques	3(3-0)
16	STAT-767	Applied Sampling Techniques	3(3-0)
17	STAT-799	Thesis	10(0-20)
18	STAT-719	Special Problem	1(1-0)
19	STAT-720	Seminar-I	1(1-0)
20	STAT-720	Seminar-II	1(1-0)



MINOR COURSES FOR M.PHIL STATISTICS

S.No.	Course No.	Course Title	Credit Hours
1	MATH-772	Applied Numerical Analysis	3(3-0)
2	MATH-773	Operations Research Models	3(3-0)



Universities play a pivotal role in imparting quality education and transforming the societies from mere followers of foreign knowledge to trend setters keeping traditional cultures and values alive. Intellectual grooming of young generation is as important as the academic grooming. The latter focuses on knowledge and learning by transmitting hard attributes of education while the former enhances the logical capabilities via installing soft attributes of education. This is the core idea behind setting up a new Faculty of Social Sciences in which all the soft issues of human sciences could be thoroughly researched in the running departments of Anthropology, Education, Economics, Humanities and Sociology. Some other subjects of Social Sciences like that of Philosophy, Psychology, Political Science, Journalism and Communication, International Relations, Criminology, Peace and Gender Studies would be introduced with the due course of time.

This faculty would act as a soft bridge among various Faculties in the university so as to add socio-economic flavor in all the postgraduate research and faculty projects. All the thesis and research projects to be pursued in the Faculty of Social Sciences would have some components of Agriculture, Agricultural Engineering, Pure Sciences, Veterinary and Animal Sciences. Moreover, this faculty acts as an external window for other institutes and funding bodies for providing advisory and policy services. Capacity building programs related to agriculture and allied disciplines would be the hallmark of this Faculty. The Faculty has already started a biannual Research Journal with the name of International Journal of Social Footprints (IJSF). A monthly "Policy Reflections" is also being started very soon.

A Public Policy Centre has also been proposed for providing advisory services to the business community on the one hand and Policy input for the Provincial and Federal Governments on the other hand. Faculty of Social Sciences is in the forefront in the conduct of special seminars, key note lectures, workshops, symposiums and international conferences. Intellectual discussions and debates are also promoted rigorously among the faculty members and students in all the departments. All the departments of this Faculty are working on starting new degree programs keeping the changing market demands in view. Faculty has introduced a new course of Moral Foundation of Education SOS-301 with credit hours 2(2-0) for all the undergraduate programs.

Dean of the Faculty

Prof. Dr. Abdul Saboor

I. DEPARTMENT OF ECONOMICS AND AGRICULTURAL ECONOMICS:

Chairman	Prof. Dr. Abdul Saboor
Assistant Professors	Dr. Abdul Qayyum Mohsin Dr. Arshad Mahmood Malik Dr. Gulnaz Hameed
Lecturers	Ms. Saima Asad Mr. Nasir Mahmood Mr. Bashir Ahmad Khan Ms. Sumera Saleem Dr. Abdul Rehman

II. DEPARTMENT OF SOCIOLOGY:

Chairman	Prof. Dr. Naimatullah Hashmi
Assistant Professors	Dr. Aneela Afzal Dr. Mazhar Hussain
Lecturers	Ms. Faria Ibad Mirza Ms. Sidra Umer

III. DEPARTMENT OF EDUCATION:

Chairman	Dr. Muhammad Imran Yousuf
Associate Professor	Dr. Almas Ikram Kiani
Assistant Professors	Dr. Qaisara Parveen Dr. Muhammad Arshad Dahar Dr. Muhammad Imran
Lecturers	Dr. Sumaira Kayani Ms. Tehsin Ehsan Mr. Muhammad Adnan Riaz Ms. Nazia Parveen

IV. DEPARTMENT OF ANTHROPOLOGY:

Chairman	Dr. Abid Ghafoor Chaudhry
Lecturers	Dr. Nazia Rafiq Ms. Mahwish Zeeshan Ms. Rabia Jawed Ms. Shagufta Hamid Ali

V. DEPARTMENT OF HUMANITIES:

Chairman	Dr. Ghulam Hussain
Lecturer (Pak Studies)	Ms. Salma Shujeb Akhtar
Lecturer (English)	Mr. Yasir Iqbal
Lecturer (Islamiyat)	Ms. Ainee Rubab Syed Noor ul Hassan Hashmi

Following courses of the “Translation of Quran” are compulsory for all undergraduate Programs offered by the Department of Humanities

Semester	COURSE	TITLE OF COURSE	CREDITS
1st	TOQ-301	Translation of Quran - I	1(1-0)
3rd	TOQ-401	Translation of Quran - II	1(1-0)
5th	TOQ-501	Translation of Quran - III	1(1-0)
7th	TOQ-601	Translation of Quran - IV	1(1-0)

Bachelor of Science (Economics) - BS (Economics)

A minimum of eight semesters and maximum of twelve semesters duration program after Intermediate or an equivalent certificate.

1. Minimum Requirements for Award of BS (Economics) Degree

- (i) The duration of the Course for completing the course for the degree of Bachelors of Science (Economics) shall normally be eight semesters and maximum 12 semesters.
- (ii) The minimum course requirement is 130 credit hours while the maximum is 140 credit hours (as per approved criteria of Higher Education Commission).
- (iii) A full time student shall be required to take courses not less than 12 credits hours in a semester.

2. Admission and Registration:-

i. Minimum Academic Requirement:-

A. A person holding Intermediate or an equivalent certificate from any recognized Institute/College with at least 50% marks excluding Hafiz-e-Quran, or any other marks specified shall be eligible for admission to BS (Economics).

ii. Domicile

(a) There will be open merit. All Pakistanis including AJK and GB domiciled are eligible for the degree programme provided that the are meeting the above admission criteria.

(b) There will be two seats reserved for the children of University employees.

iii. Number of seats will be 120 (60 each in morning and evening sessions)

3. Admission Authority:-

The Dean, Faculty of Social Sciences shall be responsible for admission to the programme.

AGE: A candidate must not be more than 23 years of age on 1st October of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

Academic Standing:-

- (i) Grade Point Average
 - (a) Maximum grade point average: 4.00
 - (b) Minimum grade point average for obtaining Master's Degree: 2.50
- (ii) To remain on the roll of the University a student shall be required to maintain the following minimum GPA/ CGPA in each semester:

Semester	GPA/CGPA
1st	0.75
2nd	1.00
3rd	1.25
4th	1.50
5th	1.75
6th	2.00
7th	2.25
8th	2.50

Bachelor of Education (Honors.) - B.Ed (Hons.)

A minimum of eight semesters and maximum of twelve semesters duration program after Intermediate or an equivalent certificate.

1. Minimum Requirements for Award of B.Ed (Hons.) Degree

The duration of the Course for completing the course for the degree of Bachelors of Education (Honors) shall normally be eight semesters and maximum 12 semesters.

2. Admission and Registration:-

i. Minimum Academic Requirement:-

A. A person holding Intermediate or an equivalent certificate from any recognized Institute/College with at least 50% marks excluding Hafiz-e-Quran, or any other marks specified shall be eligible for admission to B.Ed (Hons.).

OR

In-Service Teachers with FA/F.Sc or equivalent qualification having C.T/PTC/OT/AT with one year teaching experience Govt. Or Private School.

ii. Domicile:

(a) There will be open merit. All Pakistanis including AJK and GB domiciled are eligible for the degree programme provided that they are meeting the above admission criteria.

iii. Total Number of seats will be 35 in morning session and 35 in evening session..

3. Admission Authority:-

The Dean, Faculty of Social Sciences shall be responsible for admission to the programme.

AGE: A candidate must not be more than 23 years of age on 1st October of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

Academic Standing:-

(i) Grade Point Average

(a) Maximum grade point average: 4.00

(b) Minimum grade point average for obtaining Master's Degree: 2.50

(ii) To remain on the roll of the University a student shall be required to maintain the following minimum GPA/ CGPA in each semester:

Semester	GPA/CGPA
1st	0.75
2nd	1.00
3rd	1.25
4th	1.50
5th	1.75
6th	2.00
7th	2.25
8th	2.50

Bachelor of Science - BS (Anthropology/Sociology)

A minimum of eight semesters and maximum of twelve semesters duration program after Intermediate or an equivalent certificate.

1. **Minimum Requirements for Award of BS (Anthropology/Sociology) Degree**

The duration of the Course for completing the course for the degree of Bachelors of Science (Anthropology/Sociology) shall normally be eight semesters and maximum 12 semesters.

2. **Admission and Registration:-**

i. Minimum Academic Requirement:-

A. A person holding Intermediate or an equivalent certificate from any recognized Institute/College with at least 50% marks excluding Hafiz-e-Quran, or any other marks specified shall be eligible for admission to BS (Anthropology/Sociology).

ii. Domicile

There will be open merit. All Pakistanis including AJK and GB domiciled are eligible for the degree programme provided that they are meeting the above admission criteria.

iii. Total number of seats will be 35.

3. **Admission Authority:-**

The Dean, Faculty of Social Sciences shall be responsible for admission to the programme.

AGE: A candidate must not be more than 23 years of age on 1st October of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

Academic Standing:-

(i) Grade Point Average

(a) Maximum grade point average: 4.00

(b) Minimum grade point average for obtaining Master's Degree: 2.50

(ii) To remain on the roll of the University a student shall be required to maintain the following minimum GPA/ CGPA in each semester:

Semester	GPA/CGPA
1st	0.75
2nd	1.00
3rd	1.25
4th	1.50
5th	1.75
6th	2.00
7th	2.25
8th	2.50

Master of Philosophy (M.Phil):-

In Anthropology, Economics, Education and Sociology with a minimum of 4 and maximum of 6 semesters duration for full time student and a minimum of 6 and maximum of 8 semesters for part time students

ADMISSION TO THE COURSE:-

- i. The candidate seeking admission to the course for the M.Phil Degree must have passed the M.Sc. Examination in aggregate with CGPA not less than 2.50 or with 50% of the marks secured under Annual Examination system or its equivalent in the field of study or related disciplines from HEC recognized institutions. Must have passed University Entrance Test.
- ii. For admission in M.Phil Education degree program the candidate should have passed M.Sc/MA (Edu)/M.Ed or equivalent certificate with at least 50% marks from a recognized institute.

ACADEMIC STANDING:

(i) **Grade Point Average:**

Maximum grade point average	4.00
Minimum grade point average for obtaining M.Phil Degree	2.50

- (ii) To remain on the rolls of the University a student shall be required to maintain the following GPA/CGPA in each semester.
- (iii) A student, who obtains CGPA of 2.00 or above but less than 2.50, upon the completion of entire approved course work or minimum residency, may be allowed to repeat the courses of the previous semesters in which he/she had obtained the lowest grades in order to improve the CGPA so as to obtain the minimum of 2.50 within the maximum time allowed for the award of degree, failing which he/she shall cease to be on the roll.
- (iv) A student will be required to repeat those courses of the previous semesters in which he/she had failed at the first available opportunity, provided that his/her maximum workload, including the courses being repeated by him/her will not exceed the normal workload.

Semester	CGPA
1st	1.50
2nd	1.75
3rd	2.00
4th	2.50

Ph.D.

Ph.D. degree program in the disciplines of Economics, Agricultural Economics, Education and Sociology with a minimum of six semesters duration and maximum 10 semesters duration. Residency period for part time student is minimum of 8 semesters.

Admission to Course:

A candidate seeking admission to the course for the Degree of Doctor of Philosophy in full and partial residence must:

- (i) have passed the M.Phil Degree Examination or an equivalent examination in 1st division or with CGPA 3.00 out of 4.00 from a recognized institution in a field of study related to the subject, he/ she desires to take up.
- (ii) meet all the requirements mentioned in these regulations.
- (iii) the applications of the candidates must be accompanied with a comprehensive research proposal that he/ she intends to undertake. The candidates will also be required to defend the proposal in an open seminar after admission before undertaking the research study.
- (iv) must have passed University Entrance Test with 70% marks.

ACADEMIC STANDING:

- (i) **Grade Point Average:** Grade points will be as follow:

a. Maximum grade point average	4.00
b. Minimum grade point average for obtaining the degree	3.00
- (ii) To remain on the rolls of the University a student shall be required to maintain the minimum CGPA of 3.00.
- (iii) A student who obtains CGPA less than 3.00 may be allowed to repeat once the courses of the previous semesters in which he/ she had failed.

SCHEME OF STUDIES FOR BS (Economics)

Semester-I

Course Code	Title of Course	Credit Hours
ECON-301	Introduction to Economics	3(3-0)
ECON-303	Introduction to Economy of Pakistan	2(2-0)
STAT-301	Basics of Statistics	2(2-0)
CS-301	Introduction to Computing	3(3-0)
MATH-301	Mathematics-I	3(3-0)
ENG-301	Functional English	3(3-0)
IS-301	Islamic Studies	2(2-0)
SOS-301	Moral Foundations of Education	2(2-0)



Semester-II

Course Code	Title of Course	Credit Hours
ECON-302	Introduction to Microeconomics	3(3-0)
ECON-304	Introduction to Macroeconomics	3(3-0)
ECON-306	Introduction to Marketing	3(3-0)
SOC-308	Introduction to Sociology	3(3-0)
MATH-302	Mathematics-II	3(3-0)
ENG-302	Communication Skills	3(3-0)
SSH-302	Pakistan Studies	2(2-0)

SCHEME OF STUDIES FOR BS (Economics) ◀

Semester-III

Course Code	Title of Course	Credit Hours
ECON-401	Agricultural Economics	2(2-0)
ECON-403	Introduction to Banking and Finance	3(3-0)
ECON-405	Econometrics-I	3(3-0)
ECON-407	Elementary Calculus	3(3-0)
ECON-409	Islamic Economics	3(3-0)
MGT 411	Introduction to Management	3(3-0)



Semester-IV

Course Code	Title of Course	Credit Hours
ECON-402	Institutional Economics	3(3-0)
ECON-404	Principles of Accounting	2(3-0)
ECON-406	Econometrics-II	3(3-0)
ECON-408	Development Economics-I	3(3-0)
MATH 415	Differential Equations	3(3-0)
STAT-402	Introduction to Statistics	3(3-0)

Semester-V

Course Code	Title of Course	Credit Hours
ECON-501	Microeconomics	3(3-0)
ECON-503	Macroeconomics	3(3-0)
ECON-505	Economic Problems of Pakistan	3(3-0)
ECON-507	Mathematics for Economists	3(3-0)
ECON-509	Development Economics-II	3(3-0)
ECON-508	Human Resource Development	3(3-0)

Semester-VI

Course Code	Title of Course	Credit Hours
ECON-502	International Economics	3(3-0)
ECON-504	Production Economics	3(3-0)
ECON-506	Public Finance	3(3-0)
ECON-520	Seminar	1(1-0)
ECON-510	Political Economy of Pakistan	3(3-0)
ECON 512	Environmental Economics	3(3-0)

Semester-VII

Course Code	Title of Course	Credit Hours
ECON-601	International Trade	3(3-0)
ECON-603	Monetary Economics	3(3-0)
ECON-605	Rural Development	3(3-0)
ECON-607	Natural Resource Economics	2(2-0)
ECON-609	Managerial Economics	3(3-0)
STAT-601	Experimental Design	3(3-0)

Semester-VIII

Course Code	Title of Course	Credit Hours
ECON-602	Project Planning and Management	3(3-0)
ECON-604	Research Methods in Economics	2(1-2)
ECON-606	Marketing System Analysis	3(3-0)
ECON-608	Labour Economics	2(2-0)
ECON-619	Special Problem	1(1-0)
ECON-612	Internship	3(0-6)

SCHEME OF STUDIES FOR B.ED (HONS.)**Semester-I**

Course Code	Title of Course	Credit Hours
ENG-301	Functional English (Compulsory)	3(3-0)
IS-302	Islamic Studies/Ethics (Compulsory)	2(2-0)
EDU-301	Child Development (Foundation)	3(3-0)
EDU-302	Functional Urdu/Regional Languages	3(3-0)
EDU-303	General Science (Content)	3(3-0)
EDU-304	Instructional Methods	3(3-0)
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Semester-II

Course Code	Title of Course	Credit Hours
ENG-302	Communication Skills	3(3-0)
CS-301	Introduction to Computing	3(3-0)
EDU-305	Classroom Management (Foundation)	3(3-0)
MATH-301	Mathematics-I	3(3-0)
SSH-301	Pakistan Studies	2(2-0)
EDU-306	Teaching of Islamic Studies (Professional)	3(2-2)
SOS-301	Moral Foundation of Education	2(2-0)
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Semester-III

Course Code	Title of Course	Credit Hours
EDU-401	Teaching Literacy Skills (Professional)	3(3-0)
EDU-402	Art, Crafts and Calligraphy (Content)	3(3-0)
EDU-403	Teaching of Urdu (Professional)	3(2-2)
EDU-404	Teaching of G. Science (Professional)	3(2-2)
EDU-405	Instructional and Communication Technology (ICT) in Education (Professional)	2(2-0)
EDU-406	School Visit-I	3(0-3)
EDU-420	Seminar-I	1(1-0)
		18

**Semester-IV**

Course Code	Title of Course	Credit Hours
EDU-407	Classroom Assessment (Foundation)	3(3-0)
EDU-408	Teaching of English (Professional)	3(2-2)
EDU-409	Teaching of Mathematics (Professional)	3(2-2)
EDU-410	School, Community and Teacher (Professional)	3(3-0)
EDU-411	Teaching of Social Studies (Professional)	2(2-0)
EDU-412	Teaching Practice	3(0-3)
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Semester-V

Course Code	Title of Course	Credit Hours
EDU-501	English-III (Technical Writing and Presentation Skills compulsory)	3(3-0)
EDU-502	Foundations of Education (Foundation)	3(3-0)
EDU-503	Content Course-I Physics	3(3-0)
EDU-504	Content Course-I English	3(3-0)
EDU-505	Curriculum Development (Foundation)	3(3-0)
EDU-506	Educational Psychology (Foundation)	3(3-0)

Semester-VI

Course Code	Title of Course	Credit Hours
EDU-507	Contemporary Issues and Trends in Education (Professional)	3(3-0)
EDU-508	Content Course-II Language Skills	3(3-0)
EDU-509	Content Course-II Chemistry	3(3-0)
EDU-510	Comparative Education (Professional)	3(3-0)
EDU-512	Introduction to Guidance and Counseling (Professional)	3(3-0)

Semester-VII

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Course Code	Title of Course	Credit Hours
EDU-601	Content Course-III Grammar and Error Analysis	3(3-0)
EDU-602	Content Course-III Biology	3(3-0)
EDU-603	Pedagogy-I (Methods of Teachings related to Specialization-I)	3(3-0)
EDU-604	Pedagogy-II (Methods of Teachings related to Specialization-II)	3(3-0)
EDU-605	Research Methods in Education (Professional)	3(3-0)
EDU-606	Teaching Practice-I (Short Term)	3(0-3)

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Semester-VIII

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Course Code	Title of Course	Credit Hours
EDU-607	School Management (Professional)	3(3-0)
EDU-608	Test Development and Evaluation (Professional) Course - III (from selected discipline-II)	3(3-0)
EDU-609	Teaching Practice-II (Long Term)	3(0-3)
EDU-610	Research Project (Professional)	6(0-12)
EDU-619	Special Problem	1(1-0)
EDU-620	Seminar-II	1(1-0)

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SCHEME OF STUDIES FOR BS(ANTHROPOLOGY)

Semester-I

Course Code	Title of Course	Credit Hours
ANTH-301	Concepts in Anthropology	3(3-0)
ANTH-303	Anthropology of Pakistan	3(3-0)
STAT-301	Basics of Statistics	2(2-0)
CS-301	Introduction to Computing	3(3-0)
MATH-301	Mathematics-I	3(3-0)
ENG-301	Functional English	3(3-0)
IS-301	Islamic Studies	2(2-0)
SOS-301	Moral Foundations of Education	2(2-0)

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Semester-II

Course Code	Title of Course	Credit Hours
ANTH-302	Physical Anthropology	3(3-0)
ANTH-304	Micro Anthropology	3(3-0)
ANTH-306	Political Science	3(3-0)
SOC-308	Introduction to Sociology	3(3-0)
MATH-302	Mathematics-II	3(3-0)
ENG-302	Communication Skills	3(3-0)
SSH-302	Pakistan Studies	2(2-0)

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Semester-III

Course Code	Title of Course	Credit Hours
ANTH-401	Social Psychology	3(3-0)
ANTH-403	Macro Anthropology	3(3-0)
ANTH-405	Archaeology	3(3-0)
ANTH-407	International Relations	3(3-0)
ANTH-409	Quantitative Research in Social Anthropology	3(2-2)
MGT-411	Introduction to Management	3(3-0)

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Semester-IV

Course Code	Title of Course	Credit Hours
ANTH-402	Language and Identity	3(3-0)
ANTH-404	Agricultural Anthropology	3(3-0)
ANTH-406	Rural Development and Social Morphology	3(3-0)
ANTH-408	Human and Cultural Geography	3(3-0)
ANTH-410	Political Anthropology	3(3-0)
STAT-402	Introduction to Statistics	3(3-0)

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Semester-V

Course Code	Title of Course	Credit Hours
ANTH-501	Social History	3(3-0)
ANTH-503	Applied Anthropology	3(3-0)
ANTH-505	Anthropology and Development	3(3-0)
ANTH-507	Anthropology and Health	3(3-0)
ANTH-511	Theory in Anthropology	3(3-0)
EDU-503	Perspectives of Education in Pakistan	3(3-0)

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Semester-VI

Course Code	Title of Course	Credit Hours
ANTH-502	Industrial Anthropology and Globalism	3(3-0)
ANTH-504	Qualitative Research Method	3(3-0)
ANTH-506	Economic Anthropology	3(3-0)
ANTH-508	Anthropology of Religion	3(3-0)
ANTH-510	Cultural and Human Ecology	3(3-0)
ANTH-520	Seminar-I	1(1-0)
MGT-514	Introduction to Project Management	3(3-0)

Optional Courses for Semester 3 & 4 19

Course Code	Title of Course	Credit Hours
ANTH-410	Gender and Anthropology	3(3-0)
ANTH-411	Social Gerontology	3(3-0)
ANTH-412	Introduction to Public Health	3(3-0)
ANTH-413	Anthropology of Human Rights	3(3-0)
ANTH-414	Community Development and Social Work	3(3-0)
ANTH-415	Legal Anthropology	3(3-0)
ANTH-416	Anthropology of Food	3(3-0)
ANTH-417	Indigenous Knowledge System and Development	3(3-0)

Optional Courses for Semester 5 & 6

Course Code	Title of Course	Credit Hours
ANTH-512	Anthropology of Media & Communication	3(3-0)
ANTH-513	Business & Corporate Anthropology	3(3-0)
ANTH-514	Anthropology of Potohar	3(3-0)
ANTH-515	Virtual and Digital Anthropology	3(3-0)
ANTH-516	Law and Constitutional Studies	3(3-0)
ANTH-517	Technology, Industry & Social Change	3(3-0)
ANTH-518	RSPN and Participatory Development	3(3-0)
ANTH-522	Psychological Anthropology	3(3-0)
ANTH-523	Anthropology & Migration	3(3-0)
ANTH-524	Agrarian Societies & Food Security	3(3-0)
ANTH-525	Social Advocacy & Mobilization	3(3-0)

Semester-VII

Course Code	Title of Course	Credit Hours
ANTH-601	Development and Tourism	3(3-0)
ANTH-603	Scientific Writing	3(1-4)
ANTH-605	Urban Anthropology and Architecture	3(3-0)
ANTH-607	Population and Demography	3(3-0)
ANTH-609	Anthropology and Philosophy	3(3-0)
ANTH-611	NGOs and Social Development	3(3-0)
ANTH-619	Special Problem	1(1-0)

Semester-VIII

Course Code	Title of Course	Credit Hours
ANTH-699	Thesis	06(0-12)

Semester-VII

Course Code	Title of Course	Credit Hours
ANTH-622	Visual and Digital Anthropology	3(3-0)
ANTH-623	Social & Public Policy	3(3-0)
ANTH-624	Public Administration	3(3-0)
ANTH-625	Environmental Anthropology	3(3-0)
ANTH-626	Economic Geographies	3(3-0)
ANTH-627	Peasant & Agrarian Societies	3(3-0)
ANTH-628	Power & Governance	3(3-0)



SCHEME OF STUDIES FOR BS(Sociology)

Semester-I

Course Code	Title of Course	Credit Hours
SOC-301	Introduction to Sociology	3(3-0)
SOC-303	Development of Social Thought	3(3-0)
STAT-301	Basics of Statistics	2(2-0)
CS-301	Introduction to Computing	3(3-0)
ENG-301	Functional English	3(3-0)
SOS-301	Moral Foundation of Education	2(2-0)
SOC-390	Seminar-I	1(1-0)

Semester-II

Course Code	Title of Course	Credit Hours
SOC-302	Social Issues of Pakistan	3(3-0)
SOC-304	Rural Sociology	3(3-0)
STAT-302	Applied Statistics	3(3-0)
ENG-302	Communication Skills	3(3-0)
SSH-302	Pakistan Studies	2(2-0)
MATH-301	Mathematics-I	3(3-0)

Semester-IV

Course Code	Title of Course	Credit Hours
SOC-402	Contemporary Sociological Theory	3(3-0)
SOC-404	Research Methodology	3(3-0)
SOC-406	Community Development	3(3-0)
SOC-408	Population Studies	3(3-0)
SOC-410	Project Planning and Management	3(3-0)
CRM-301	Introduction to Criminology	3(3-0)

Semester-III

Course Code	Title of Course	Credit Hours
SOC-401	Classical Sociological Theories	3(3-0)
SOC-403	Social Psychology	3(3-0)
SOC-405	Gender Studies	3(3-0)
SOC-407	Governance and Social Policy	3(3-0)
IS-301	Islamic Studies	2(2-0)
ANTH-301	Concepts in Anthropology	3(3-0)

Semester-V

Course Code	Title of Course	Credit Hours
SOC-501	Research Design and Sociometry	3(3-0)
SOC-503	Rural Social Organization	3(3-0)
SOC-505	Sociology of Media	3(3-0)
SOC-507	Sociology of Health and Medicine	3(3-0)
SOC-509	Social Change and Transformation	3(3-0)
SOC-511	Urban Sociology	3(3-0)

Semester-VI

Course Code	Title of Course	Credit Hours
SOC-502	Qualitative Research Methodology	3(3-0)
SOC-504	Organizational Behaviour & Management	3(3-0)
SOC-506	Introduction to Social Work	3(3-0)
SOC-508	Sociology of Religion	3(3-0)
SOC-510	Sociology of Education	3(3-0)
SOC-391	Seminar-II	1(1-0)
	Translation of Quran	

List of Foundation Courses

Course Code	Title of Course	Credit Hours
SOC-301	Introduction to Sociology	3(3-0)
SOC-303	Development of Social Thought	3(3-0)
SOC-401	Classical Sociological Theories	3(3-0)
SOC-402	Contemporary Sociological theories	3(3-0)
SOC-403	Social Psychology	3(3-0)
SOC-404	Research Methodology	3(3-0)
SOC-509	Social Change & Transformation	3(3-0)
SOC-510	Sociology of Education	3(3-0)
SOC-601	Diffusion of Innovation	3(3-0)

Semester-VII

Course Code	Title of Course	Credit Hours
SOC-601	Diffusion of Innovation	3(3-0)
SOC-603	Conflict and Alternative Dispute Resolution	3(3-0)
SOC-605	Industrial Sociology	3(3-0)
MGT-411	Introduction to Project Management	3(3-0)
SOC-607	Political Sociology	3(3-0)
EDU-503	Perspective of Education in Pakistan	3(3-0)

Semester-VIII

Course Code	Title of Course	Credit Hours
SOC-602	Sociology of Globalization	3(3-0)
SOC-604	Clinical Sociology	3(3-0)
ANTH-602	Scientific Writing	3(3-0)
SOC-612**	Project /Internship	3(0-6)
SOC-619	Special Problem	1(1-0)
	* Thesis	6(0-12)

* Thesis

6(0-12)

Thesis 6(0-12) would be optional and it will be offered in the 7th semester. In lieu of thesis, those opting for thesis will get exemption of two courses (a three credit hours course from list of courses offered in seventh semester and **SOC-394 (Project/Internship in semester eighth) However, the first course being exempted shall not be a compulsory course from the list of foundation courses of course scheme of studies of BS Sociology program.

List of Major Courses

Course Code	Title of Course	Credit Hours
SOC-302	Social Issues of Pakistan	3(3-0)
SOC-304	Rural Sociology	3(3-0)
SOC-406	Community Development	3(3-0)
SOC-408	Population Studies	3(3-0)
SOC-410	Project Planning & Management	3(3-0)
SOC-501	Research Design and Sociometry	3(3-0)
SOC-505	Sociology of Media	3(3-0)
SOC-506	Introduction to Social Work	3(3-0)
SOC-507	Sociology of Health & Medicine	3(3-0)
SOC-508	Sociology of Religion	3(3-0)
SOC-511	Urban Sociology	3(3-0)
SOC-602	Sociology of Globalization	3(3-0)
SOC-607	Political Sociology	3(3-0)
SOC-612	Research Project & Thesis/Internship	3(0-6)

List of Elective Courses

Course Code	Title of Course	Credit Hours
SOC-405	Gender Studies	3(3-0)
SOC-407	Governance and Social Policy	3(3-0)
SOC-502	Qualitative Research Methodology	3(3-0)
SOC-503	Rural Social Organization	3(3-0)
SOC-504	Organizational Behaviour and Management	3(3-0)
SOC-603	Conflict and Alternative Dispute Resolution	3(3-0)
SOC-604	Clinical Sociology	3(3-0)
SOC-605	Industrial Sociology	3(3-0)

Course Code	Title of Course	Credit Hours
AGRON-410	History of Agriculture in Pakistan	3(3-0)
AGRON-503	Irrigation Systems in Pakistan	3(3-0)
SOC-412	Sociology of Agriculture	3(3-0)
SOC-512	Gender and Rural Development	3(3-0)
SOC-513	Rural Social Institutions	3(3-0)
SOC-514	Food, Culture and Society	3(3-0)
SOC-609	Rural Development	3(3-0)
SOC-611	Population and Agriculture Development	3(3-0)
SOC-503	Rural Social Organization	3(3-0)

Course Code	Title of Course	Credit Hours
SOC-304	Rural Sociology	3(3-0)
SOC-406	Community Development	3(3-0)
SOC-408	Population Studies	3(3-0)

Scheme of studies for M.Sc (Hons.)

CORE COURSES

MAJOR

COURSE CODE	TITLE OF COURSE	CREDITS
AEC-751	Microeconomics Analysis	3(3-0)
AEC-752	Macroeconomics Analysis	3(3-0)
AEC-753	Mathematical Methods in Economics	3(3-0)
AEC-754	Econometrics Techniques and Applications	3(3-0)
AEC-720	Seminar	1(1-0)
AEC-799	Research Thesis	10(0-20)

MINOR

STAT-701	Experimental Statistics	3(3-0)
STAT-702	Bio Statistical Analysis	3(3-0)

OPTIONAL COURSESMAJOR

AEC-715	Applied Economics	3(3-0)
AEC-714	Production Economics	3(3-0)
AEC-746	Human Resource Development	3(3-0)
AEC-747	Environmental Economics	3(3-0)
AEC-748	Economic System of Islam	3(3-0)
AEC-758	Research Methods in Economics	2(1-2)

MINOR

ECON-755	Mathematical Programming and Applications	3(3-0)
ECON-756	Preparation of Projects and Evaluation	3(3-0)
ECON-757	Agriculture Economics and Farm Management	3(3-0)
ECON-761	International Trade	3(3-0)
ECON-762	Monetary Economics	3(3-0)
ECON-763	Public Finance and Fiscal Policy	2(1-2)
ECON-764	Economic Development in Developing Countries	3(3-0)
ECON-701	Computer Application in Statistics	3(1-4)
ECON-702	Operational Research	3(3-0)

Courses for M.Phil Economics

CORE COURSES

MAJOR

Course.No.	Course Title	Credit Hours
ECON-751	Microeconomic Analysis	3(3-0)
ECON-752	Macroeconomic Analysis	3(3-0)
ECON-753	Mathematical Methods in Economics	3(3-0)
ECON-754	Econometrics Techniques and Applications	3(3-0)
ECON-720	Seminar	1(1-0)
ECON-799	Research Thesis	10(0-20)

MINOR

STAT-701	Experimental Statistics	3(3-0)
STAT-702	Bio Statistical Analysis	3(3-0)

OPTIONAL COURSESMAJOR

ECON-755	Mathematical Programming and Applications	3(3-0)
ECON-756	Preparation of Projects and Evaluation	3(3-0)
ECON-757	Agriculture Economics and Farm Management	3(3-0)
ECON-758	Research Methods in Economics	2(1-2)
ECON-761	International Trade	3(3-0)
ECON-762	Monetary Economics	3(3-0)
ECON-763	Public Finance and Fiscal Policy	3(3-0)
ECON-764	Economic Development in Developing Countries	3(3-0)

MINOR

AEC-715	Applied Economics	3(3-0)
AEC-714	Production Economics	3(3-0)
AEC-746	Human Resource Development	3(3-0)
AEC-747	Environmental Economics	3(3-0)
AEC-748	Economic System of Islam	3(3-0)
MATH-701	Computer Application in Statistics	3(1-4)
MATH-705	Operational Research	3(3-0)

Scheme of studies for Ph.D Agri. Economics

CORE COURSES

MAJOR

Course No.	Course Title	Credit Hours
AEC-771	Microeconomic Theory	3(3-0)
AEC-772	Macroeconomic Theory	3(3-0)
AEC-773	Advanced Econometrics	3(3-0)
AEC-774	Advanced Mathematical Economics	3(3-0)
AEC-719	Special Problem	1(1-0)
AEC-720	Seminar-I	1(1-0)
AEC-720	Seminar-II	1(1-0)
AEC-799	Research Thesis	50(0-100)

MINOR

STAT-772	Mathematical Statistics	3(3-0)
AGR-717	Integrated Agriculture	3(3-0)

OPTIONAL COURSES

All courses offered for Ph.D/M.Phil programs in other disciplines can be offered to the Ph.D students, depending upon their research requirements.

Scheme of studies for Ph.D Economics

CORE COURSES

MAJOR

Course No.	Course Title	Credit Hours
ECON-771	Microeconomic Theory	3(3-0)
ECON-772	Macroeconomic Theory	3(3-0)
ECON-773	Advanced Econometrics	3(3-0)
ECON-774	Advanced Mathematical Economics	3(3-0)
ECON-719	Special Problem	1(1-0)
ECON-720	Seminar-I	1(1-0)
ECON-720	Seminar-II	1(1-0)
ECON-799	Research Thesis	50(0-100)

MINOR

STAT-772	Mathematical Statistics	3(3-0)
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OPTIONAL COURSES

All courses offered for Ph.D/M.Phil programs in other disciplines can be offered to the Ph.D students, depending upon their research requirements.

Scheme of studies for M.Phil Anthropology

CORE COURSES

S.No.	Course No.	Course Title	Credit Hours
1	ANTH-731	Theoretical Debates in Anthropology	3(3-0)
2	ANTH-732	Social Theory	3(3-0)
3	ANTH-733	Methodological Issues in Anthropology	3(2-2)
4	ANTH-734	Methods in Anthropological Research	3(2-2)
5	ANTH-719	Special Problem	1(1-0)
6	ANTH-720	Seminar-I	1(1-0)
7	ANTH-720	Seminar-II	1(1-0)
8	ANTH-799	Thesis	10(0-20)

OPTIONAL COURSES

S.No.	Course No.	Course Title	Credit Hours
9	ANTH-735	Agrarian Societies & Culture	3(3-0)
10	ANTH-736	Indigenous Knowledge System	3(3-0)
11	ANTH-737	Issues in Development Policy	3(3-0)
12	ANTH-738	Cultural Geography & Human Ecology	3(3-0)
13	ANTH-739	Ethnology of Pakistan	3(3-0)
14	ANTH-740	Historical Anthropology & Cultural History	3(3-0)
15	ANTH-741	Paradigms of Development	3(3-0)
16	ANTH-742	Political Process and Human Rights	3(3-0)
17	ANTH-743	Cross Cultural Analysis	3(3-0)
18	ANTH-744	Development Practices	3(3-0)
19	ANTH-745	Social Gerontology	3(3-0)
20	ANTH-746	Modernity, Medicine and Health	3(3-0)

SCHEME OF STUDIES OF M.PHIL IN EDUCATION

A) Core Courses

S.No.	Code	Course Title	Credit Hours
1	EDU-741	Foundations of Education	4(4-0)
2	EDU-742	Curriculum Development and Design	4(4-0)
3	EDU-743	Advanced Methods of Research in Social Sciences	4(3-2)
4	EDU-744	Advanced Statistics in Social Sciences	4(3-2)
5	EDU-745	Educational Planning	4(4-0)
6	EDU-719	Special Problem	1(1-0)
7	EDU-720	Seminar-I	1(1-0)
	EDU-720	Seminar-II	1(1-0)
			23

B) Specialization Courses

Candidates will select **three courses** from the following, subject to their availability

S.No.	Code	Course Title	Credit Hours
1	EDU-746	Instructional Technology and Teaching Techniques	3(3-0)
2	EDU-747	Education and Development	3(3-0)
3	EDU-748	Teacher Education in Comparative Perspective	3(3-0)
4	EDU-749	Education in Transitional Societies	3(3-0)
5	EDU-750	Economics of Education	3(3-0)
6	EDU-751	Higher Education in Comparative Perspective	3(3-0)
7	EDU752	Educational and Psychological Testing	3(3-0)
			3+3+3=9

C)

1	EDU-799	Thesis	10(0-20)
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SCHEME OF STUDIES OF PH.D IN EDUCATION

A) Core Courses

S.No.	Code	Course Title	Credit Hours
1	EDU-761	Qualitative and Quantitative Research Design in Education	3(3-0)
2	EDU-762	Educational Studies	3(3-0)
3	EDU-725	Applied Statistics in Education	3(3-0)
4	EDU-763	Global Challenges in Education	3(3-0)
5	EDU-720	Seminar-I	1(1-0)
6	EDU-720	Seminar-II	1(1-0)
			14

Educational Leadership and Management

S.No.	Code	Course Title	Credit Hours
1	EDU-767	Educational Policy and Planning	3(3-0)
2	EDU-768	Instructional Leadership and Supervision	3(3-0)
3	EDU-769	Human Resource Management in Education	3(3-0)

Curriculum Development

S.No.	Code	Course Title	Credit Hours
1	EDU-773	Curriculum Applications and Change	3(3-0)
2	EDU-774	Curriculum Theories and Models	3(3-0)
3	EDU-775	Curriculum and Instruction	3(3-0)

C)

1	EDU-799	Research Thesis	50(0-100)
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B) Specialization Courses

Candidate will select **two courses** from any one Specialization of the given areas

Early Childhood Education (ECE)

S.No.	Code	Course Title	Credit Hours
1	EDU-764	Evolution of Early Childhood Education	3(3-0)
2	EDU-765	Planning, Management and Instruction in Early Childhood Education	3(3-0)
3	EDU-766	Growth and Developing of Children	3(3-0)

Educational Assessment

S.No.	Code	Course Title	Credit Hours
1	EDU-770	Modern Assessment and Evaluation	3(3-0)
2	EDU-771	Test Theories and Designs	3(3-0)
3	EDU-772	Test Construction and Standardization	3(3-0)



Scheme of studies for M.Phil. Sociology

S.No.	Course No.	Course Title	Credit Hours
1	SOC-731	Advanced Research Methods of Social Sciences	3(2-2)
2	SOC-732	Sociology of Development	3(3-0)
3	SOC-733	Industrial Sociology	3(3-0)
4	SOC-734	Sociology of Politics	3(3-0)
5	SOC-735	Sociology of Human Rights	3(3-0)
6	SOC-736	Religiosity	3(3-0)
7	SOC-737	Medical Sociology	3(2-2)
8	SOC-738	Sociology of Gender Issues	3(3-0)
9	SOC-739	Sociology of Migration	3(3-0)
10	SOC-740	Advanced Sociological Theory	3(3-0)
11	SOC-741	Qualitative Analysis	3(2-2)
12	SOC-742	Scientific Report Writing	2(2-0)
13	SOC-743	Clinical Sociology	3(3-0)
14	SOC-744	Social Psychology-II	3(3-0)
15	SOC-719	Special Problem	1(1-0)
16	SOC-720	Seminar-I	1(1-0)
17	SOC-720	Seminar-II	1(1-0)
18	SOC-799	Thesis	10(0-20)

Scheme of studies for Ph.D. Sociology

S.No.	Course No.	Course Title	Credit Hours
1	SOC-770	Advanced Sociological Theories	3(3-0)
2	SOC-771	Advanced Methods of Social Research	3(3-0)
3	SOC-772	Social Issues of Pakistan	3(3-0)
4	SOC-773	Social and Public Policy	3(3-0)
5	SOC-774	Sociology of Globalization	3(3-0)
6	SOC-775	Population Techniques and Analysis	3(3-0)
7	SOC-776	Sociology of Gender and Development	3(2-2)
8	SOC-777	Agro Food System	3(3-0)
9	SOC-778	Sociology of Work and Industry	3(3-0)
10	SOC-779	Philosophy of Social Sciences	3(3-0)

S.No.	Course No.	Course Title	Credit Hours
11	SOC-780	Advanced Qualitative Analysis	3(2-2)
12	SOC-781	Scientific Report Writing	2(2-0)
13	SOC-799	Thesis	50(0-100)

The faculty offers Undergraduate and Postgraduate degree programs

Dean of the Faculty	Prof. Dr. Arfan Yousaf
P.A to Dean	Mr. M. Bilal Bashir

1. Department of Veterinary Biomedical Sciences

Chairman	Dr. Mansur Abdullah
Assistant Professors	Dr. Riaz Hussain Pasha Dr. Mazhar ul Haq
Lecturers	Mr. Mujeeb-ur-Rehman Sohoo Mr. Asif Riaz Ms. Sumaira Hassan Mr. Zeeshan Akbar

2. Department of Parasitology and Microbiology

Chairman	Prof. Dr. M. Ali Abdullah Shah
Associate Professor	Dr. Murtaz ul Hasan
Assistant Professors	Dr. Saif ur Rehman Dr. Aayesha Riaz Dr. Zahid Manzoor
Lecturer	Mr. Muhammad Shoaib

3. Department of Pathology

Chairman	Dr. Imtiaz Ahmad Khan
Assistant Professor	Dr. Muhammad Zishan Ahmad

4. Department of Clinical Studies

Chairman	Dr. Muhammad Arif Zafar
Professor	Dr. Arfan Yousaf
Assistant Professors	Dr. Muhammad Yaqoob Mr. Fahad Raza
Lecturers	Dr. Zahid Naseer Mr. Muddassar Nawaz Mr. Muhammad Shakeel Dr. Awais Ur Rehman Sial Dr. Asghar Khan Mr. Munib Ullah

5. Department of Livestock Production & Management

Chairman	Dr. Tanveer Ahmad
Assistant Professor	Dr. M. Farooq Iqbal Dr. Muhammad Fiaz
Lecturers	Dr. Syeda Maryam Hussain Dr. Kashif Ishaq Mr. M. Imran Khan

6. Department of Animal Breeding & Genetics

Chairman	Dr. M. Moaeen-ud-Din
Assistant Professor	Dr. Ghulam Bilal
Lecturer	Hafiz Muhammad Waheed

7. Department of Poultry Science

Chairman	Prof. Dr. Arfan Yousaf
Assistant Professor	Dr. Nasir Mukhtar
Lecturer	Mr. Zaib-ur-Rehman

I. Doctor of Veterinary Medicine (DVM)

A minimum of ten semesters duration program after F.Sc. (Pre-Medical).

1. Minimum Requirements for Award of (DVM) Degree

- (a) The minimum duration for completing the course for the degree of Doctor of Veterinary Medicine (DVM) shall be 10 semesters and maximum 14 semesters
- (b) There will be 15 credit hours internship in the 10th semester.
- (c) The minimum course requirement is 215 credit hours as per approved scheme of studies.
- (d) A full time student can enroll maximum 10 credit hours during summer semester after spring semester.

2. Admission and Registration:-**(i) Minimum Academic Requirements**

A person holding Higher Secondary School Certificate (Pre-Medical) or an equivalent certificate from any recognized institute with at least 50% marks excluding Hafiz-e-Quran, or any other marks specified shall be eligible for admission to the degree of Doctor of Veterinary Medicine (DVM).

(ii) *Domicile:***Reserved Seats**

- (a) The candidates domiciled in the Barani Areas of Punjab and Islamabad shall only be eligible for admission.
- (b) Selected districts of the Barani Area of Punjab has a specified quota to be determined by the Academic Council from time to time.
- (c) Each district will have its own merit.
- (d) District wise and other reserved seats will be followed as per page No. 72.

3. Admission Authority

The Dean, concerned shall be responsible for admission.

4. Age

A candidate must not be more than 23 years of age on 1st October of the year of admission provided that the Vice-Chancellor may relax age limit in very exceptional cases.

**Distribution of Seats for DVM
Morning Programme**

CATEGORY	NUMBER OF SEATS
Islamabad	3
FATA	2
Gilgit-Baltistan	2
AJK	2
Sindh	2
KPK	2
Army Wards	2
Children of University Employees	2
Veterinarian's Children	2
Veterinarian/Animal Husbandry/Animal Sciences Graduate's Children	1
Balochistan Nominees	5
District Wise Quota from Punjab	
Rawalpindi	4
Attock	3
Jhelum	3
Chakwal	3
Gujrat	3
Mianwali	3
DG Khan	3
Muzafargarh (Muzafargarh and Kot Addu only)	3
Khushab	3
Bhakar	3
Rajanpur	3
Open Merit	26
Evening Program	50
TOTAL	135

2% quota reserved for minorities

6. Minimum and Maximum Credit Hours

- (a) Each student shall enroll himself/ herself in the first and second semester for all the credit hours prescribed for these semester.
- (b) Subsequently, (except for tenth semester) he/she shall has to enroll for courses carrying not less than 15 and not more than 32 credit hours.
- (c) In his/ her 8th, 9th semester, a student may enroll himself/ herself for the courses carrying the remaining credit hours provided that the maximum does not ordinarily exceed 34 credit hours provided further that this limit may be extended by the Vice-Chancellor up to 38 credit hours in the 8th semester if no even semester courses left behind & similarly he/ she may be allowed to enroll up to 38 credit hours in the 9th semester if no odd semester course is left behind in special circumstances to be determined carefully in each individual case.

The same is applicable to the 11th, 12th, 13th and 14th semester.
- (d) No course shall be offered during any semester which does not fall within the "Scheme of Studies" in the respective semester.

Academic Standing:**(i) Grade Point Average**

(a)	Maximum Grade Point Average	4.00
(b)	Minimum Grade Point Average for obtaining the degree	2.50

(ii) To remain on the roll of the University a student shall be required to maintain the following minimum CGPA in each semester:

Semester	CGPA
1st	0.75
2nd	1.00
3rd	1.25
4th	1.50
5th	1.75
6th	2.00
7th	2.00
8th	2.25
9th	2.25
10th	2.50

**7. Explanation:**

- (i) A student who maintains the minimum GPA/ CGPA for promotion and meets the requirements will be promoted to the next semester.
- (ii) A student who does not meet the above requirements may repeat the whole semester once only.
- (iii) If a student fails to achieve CGPA 2.5 in the 10th semester, he/she shall have to repeat the course (s) with lowest grade (s) to make CGPA of 2.5 within the maximum time allowed for the degree otherwise he/she shall cease on the university rolls.

8. Internship

During the 10th semester of DVM, there shall be training in Civil Veterinary Hospitals, livestock and poultry farms (Government and Private), disease diagnostic laboratories, milk plants, feed mills, slaughter houses/abattoirs, farmers cooperatives etc (Government and Private) where they will undertake skills and management developments trainings. After the completion of internship, the students shall be required to submit a report and present a seminar. The evaluation for internship will be made as determined by the board of study.

Explanation:

- i. A student could not enrolled any course during 10 semester if has enrolled internship.
- ii. Only those students can enroll the internship who have passed all the courses. However, permission from the Competent Authority may be solicited as special case for enrolling internship during 10th semester while having failed courses.

BS Poultry Science

Minimum Requirements for Award of Bachelor's Degree

- I. The minimum duration for completing the course for the degree of BS Poultry Science shall normally be eight semesters and maximum 12 semesters.
- II. The minimum course requirement is 134 credit hours.
- III. Each student shall enroll himself/herself in each of the semesters for all the credit hours prescribed for these semesters.

Admission and Registration

- I. Minimum Academic Requirements: - A candidate holding Intermediate Science Certificate (pre-Medical), A-level or an equivalent certificate from any recognized Institute/College with at least 50% marks excluding Hafiz-e- Quran, or any other marks specified shall be eligible for admission to BS Poultry Science.
- II. Admission will be on open merit basis (all Punjab/Islamabad) and merit will be calculated on the basis of marks obtained in the last Highest Certificate (Intermediate or equivalent).
- III. There will be fifty seats in the morning session inclusive of university employee children's (2 seats).
- IV. **Age:** A candidate must not be more than 23 years of age on 1st October of the admission year, provided that the Vice Chancellor may relax age limit in very exceptional cases.

Admission Authority

The Dean, Faculty of Veterinary and Animal Sciences (FV &AS) shall be responsible for admission to the BS Poultry Science program.

Minimum and Maximum Credit Hours

I. Each student shall enroll himself/herself in the first and second semester for all the credit hours prescribed for these semesters.

II. Subsequently (except for eighth semester) he/she shall have to enroll for courses carrying not less than 18 and not more than 21 credit hours.

III. In his/her sixth and seventh semesters, a student may enroll himself/herself for the courses carrying the remaining credit hours; provided that the maximum does not ordinarily exceed 24 credit hours; provided further that this limit may be extended by the Vice Chancellor up to 27 credit hours in 6th semester if no even semester course is left behind and similarly he/she may be allowed to enroll up to 27 credit hours in 7th semester if no odd semester course is left behind, in special circumstances to be determined carefully in each individual case. The same will be applicable to the 9th, 10th, 11th and 12th semester.

IV. No course shall be offered during any semester, which does not fall within the "Scheme of Studies" in the respective semester.

V. A student is required to do internship in an organization of repute for a period of 16 weeks after the completion of 7th semester and will enroll for internship in the 8th semester.

During this semester, the student will have to submit a report along with satisfactory completion certificate. The report will be evaluated by the departmental committee, to be constituted by the Chairman Department of Poultry Sciences.

VI. Internship will be of six credit hours and marks will be counted towards final grading.

VII. Marks of the audit courses TOQ-301, TOQ 401, TOQ 501, and TOQ 601 (Translation of Quran) will not be counted towards final grading.

a. Viva of the audit courses are compulsory for Muslim students in every year

b. The credit hours of the audit courses will not be counted in the total credit hours of the degree/semester.

Academic Standing**I. Grade Point Average**

(a) Maximum Grade Point Average (GPA) 4.00

(b) Minimum Grade Point Average for obtaining the degree (CGPA) 2.50

- II. A student who maintains the minimum GPA/CGPA for promotion and meets the requirements will be promoted to the next semester.
- III. A student who does not meet the above requirements may repeat the whole semester once only.
- IV. If a student fails to achieve CGPA 2.5 in the 8th semester, he shall have to repeat the course/courses of lowest grade(s) to make CGPA of 2.5 within the maximum time allowed for the degree otherwise he/she shall cease on the University rolls.

M.Phil

Veterinary Microbiology, Veterinary Pathology, Veterinary Parasitology, Veterinary Medicine, Veterinary Surgery, Livestock Management, Animal Nutrition, Animal Breeding and Genetics

To remain on the roll of the University a student shall require to maintain the following minimum CGP A in each

Semester	GPA/CGPA
1st	0.75
2nd	1.00
3rd	1.25
4th	1.50
5th	1.75
6th	2.00
7th	2.25
8th	2.50

ADMISSION TO THE COURSE FOR M.PHIL:-

- i. A candidate seeking admission to the disciplines mentioned must have passed DVM/B. Sc. (Hons.) Animal Husbandry from PVMC recognized institutes with CGPA of not less than 2.50 /4.00.
- ii. Must have passed University Entrance Test.

ACADEMIC STANDING:

(i) **Grade Point Average:**

Maximum grade point average 4.00
 Minimum grade point average for obtaining M.Phil Degree 2.50

- (ii) To remain on the rolls of the University a student shall be required to maintain the following GPA/CGPA in each semester.
- (iii) A student, who obtains CGPA of 2.00 or above but less than 2.50, upon the completion of entire approved course work or minimum residency, may be allowed to repeat the courses of the previous semesters in which he/she had obtained the lowest grades in order to improve the CGPA so as to obtain the minimum of 2.50 within the maximum time allowed for the award of degree, failing which he/she shall cease to be on the roll.
- (iv) A student will be required to repeat those courses of the previous semesters in which he/she had failed at the first available opportunity, provided that his/her maximum workload, including the courses being repeated by him/her will not exceed the normal workload.

Semester	CGPA
1st	1.50
2nd	1.75
3rd	2.00
4th	2.50

Ph.D

Veterinary Microbiology, Veterinary Pathology, Veterinary Parasitology, Veterinary Medicine & Surgery, Livestock Management, Animal Nutrition, Animal Breeding and Genetics

ADMISSION TO THE COURSE FOR M.PHIL:-

- i. M.Sc (Hons.)/M.Phil in relevant Veterinary/Animal Sciences disciplines from PVMC recognized DAIs with CGPA of at least 3.00/4.00 or equivalent (%) in the relevant discipline.
- ii. Must have passed University GRE Type Subject Test with 70% marks. The Ph.D applications must be accompanied by comprehensive project proposals.

SCHEME OF STUDIES FOR DVM 5-YEARS PROGRAMME

I SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	ANAT-101	Veterinary Anatomy I	3(1-2)
2	ANAT-103	General Veterinary Histology	2(1-1)
3	PHYS-101	Veterinary Physiology-I	3(2-1)
4	PHYS-103	Veterinary Biochemistry	4(3-1)
5	MATH-101	Mathematics	2(2-0)
6	ENG-101	English- I (Functional English)	2(2-0)

16(11-5)26



II SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	ANAT-102	Veterinary Anatomy II	3(1-2)
2	ANAT-104	Systemic Veterinary Histology and Embryology	3(2-1)
3	PHYS-102	Veterinary Physiology-II	4(3-1)
4	ENG-102	English- II (Communication Skills)	2(2-0)
5	MICRO-102	General Veterinary Microbiology	3(2-1)
6	PS-102	Introduction to Poultry Production	1(1-0)
7	LM-102	Fundamentals of Livestock Production	2(1-1)
8	SSH-102	Pakistan Studies	1(1-0)

19(13-6)31

III SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	AN-201	Principles of Animal Nutrition	3(2-1)
2	PHARM-201	General and Systemic Pharmacology	4(3-1)
3	PATH-201	General Veterinary Pathology	3(2-1)
4	PARA-201	General Veterinary Parasitology and Protozoology	3(2-1)
5	MICRO-201	Veterinary Immunology	2(1-1)
6	ANTH-201	Anthropology	1(1-0)
7	BCH-201	Molecular Biology	2(1-1)
8	ZOOL-201	Lab. and Zoo Animal Management	1(0-1)

19(12-7)33

IV SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	AN-202	Livestock Feed Resources and Forage Conservation	3(2-1)
2	PHARM-202	Veterinary Chemotherapy and Toxicology	4(3-1)
3	MICRO-202	Veterinary Bacteriology and Mycology	3(2-1)
4	PATH-202	Systemic Veterinary Pathology	3(2-1)
5	PARA-202	Veterinary Helminthology	4(31)
6	AE-202	Livestock Extension Education	2 (2-0)
7	ABG-202	Animal Breeding and Genetics - I	2(1-1)

V SEMESTER**21(15-6)33**

S.No.	Course No.	Course Title	Credit Hours
1	AN-301	Poultry Nutrition and Feed Technology	2(1-1)
2	ABG-301	Animal Breeding and Genetics II	3(2-1)
3	PATH-301	Veterinary Clinical Pathology	1(0-1)
4	EPID-301	Zoonosis and Food Safety	3 (2-1)
5	MICRO-301	Veterinary Virology	3(2-1)
6	THER-301	Veterinary Reproductive Physiology	3 (2-1)
7	MED-301	General and Systemic Veterinary Medicine	3(2-1)
8	SSH-301	Islamic Studies/Ethics	1(1-0)

VI SEMESTER**19(12-7)33**

S.No.	Course No.	Course Title	Credit Hours
1	PARA-302	Veterinary Entomology and Acarology	3(21)
2	LM-302	Principles of Dairy Production	3(2-1)
3	THER-302	Reproductive Biotechnology	2 (2-0)
4	MED-302	Veterinary Preventive Medicine-I	3(3-0)
5	PATH-302	Meat Inspection and Necropsy Practice	3(2-1)
6	SURG-302	Small Animal Surgery	4(3-1)
7	MED-302	Medicine Clinic-I	1(0-1)
8	SURG-304	Surgery Clinic I	1(0-1)
9	THER-304	Theriogenology Clinic I	1(0-1)
10	AEC-302	Livestock Economics And Business Management	2(2-0)

23(16-7)37

VII SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	LM-401	Beef and Mutton Production	2(1-1)
2	MED-401	Veterinary Preventive Medicine-II	3(3-0)
3	SURG-401	Anaesthesiology and Intensive Care	1(0-1)
4	THER-401	Obstetrics and Genital Diseases	3(2-1)
5	PS-401	Commercial Poultry Production	2(1-1)
6	STAT-401	Bio-statistics	3(2-1)
7	MED-403	Medicine Clinic-II	1(0-1)
8	SURG-403	Surgery Clinic II	1(0-1)
9	THER-403	Theriogenology Clinic II	1(0-1)

17(9-8)33



VIII SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	PS-402	Breeder and Hatchery Management	3(2-1)
2	EPID-402	Veterinary Epidemiology and Public Health	3(2-1)
3	SURG-402	Diagnostic Imaging	2(1-1)
4	MED-402	Medicine Clinic III	2(0-2)
5	SURG-404	Surgery Clinic III	2(0-2)
6	THER-402	Theriogenology Clinic III	2 (0-2)
7	ZOOL-402	Fisheries and Aquaculture	1 (0-1)

15(5-10)35

IX SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	LM-501	Animal Welfare and Ethics	2(2-0)
2	LM-503	Dairy Technology	2(1-1)
3	PATH-501	Poultry Pathology	3(2-1)
4	SURG-501	Large Animal Surgery and Shoeing	3(2-1)
5	MED-501	Medicine Clinic-IV	2(0-2)
6	SURG-503	Surgery Clinic IV	2(0-2)
7	THER-501	Therigenology Clinic IV	2(0-2)
8	MED-503	Technical Report Writing and Presentation	2(2-0)

18(9-9)36

X SEMESTER

Course No.	Course Title	Credit Hours
INTERNSHIP	Internship	-

167(102-65)297

SCHEME OF STUDIES FOR BS(Poultry Science)

Semester-I

Course Code	Title of Course	Credit Hours
PS-301	Introduction to Poultry Science	2(1-2)
PS-303	Rural Poultry Production	2(1-2)
AN-303	Fundamentals of Animal Nutrition	3(2-2)
ABG-301	Principles of Heredity	3(2-2)
ENG-301	Functional English	3(3-0)
MATH-301	Mathematics-I	3(3-0)
IS-301	Islamic Studies/Ethics (For Non-Muslims)	2(2-0)
SOS-301	Moral Foundation of Education	2(2-0)
TOQ-301	Translation of Quran	1(1-0)

Semester-II

Course Code	Title of Course	Credit Hours
PS-302	Poultry Physiology	3(2-2)
PS-304	Poultry Behavior and Welfare	1(1-0)
AN-304	Metabolism of Primary Nutrients	3(2-2)
ANAT-302	Avian Anatomy and Histology	3(2-2)
BCH-302	Introduction to Biochemistry	3(2-2)
SSH-302	Pakistan Studies	2(2-0)
CS-300	Introduction to Information and Communication Technologies	3(2-2)

Semester-III

Course Code	Title of Course	Credit Hours
PS-403	Incubation Principles & Hatchery Management	3(2-2)
PS-405	Fancy Bird Production	2(1-2)
PS-407	Poultry Housing and Equipment	3(2-2)
AN-401	Mineral and Vitamin Metabolism	3(2-2)
ABG-401	Introductory Molecular Genetics & Genomics	3(2-2)
Micro-403	General Microbiology & Immunology	4(3-2)
TOQ-401	Translation of Quran	1(1-0)

Semester-IV

Course Code	Title of Course	Credit Hours
PS-404	Broiler Production	3(2-2)
PS-406	Poultry Reproduction	3(2-2)
AN-402	Feed Evaluation, Formulation & Processing Tech.	3(2-2)
ABG-402	Introductory Population Genetics	3(2-2)
PATH-402	General Pathology	3(2-2)
STAT-406	Biostatistics and Computer Application	3(2-2)

Semester-V

Course Code	Title of Course	Credit Hours
PS-501	Layer Production and Management	3(2-2)
PS-503	Breeder Production & Management	3(2-2)
PS-505	Poultry Feeding Practices	2(1-2)
ABG-501	Applied Poultry Breeding	3(2-2)
FMPE-507	Poultry Farm Equipment, Structure & Housing	3(2-2)
EPID-501	Veterinary Epidemiology & Public Health	4(3-2)
TOQ-501	Translation of Quran	1(1-0)

Semester-VI

Course Code	Title of Course	Credit Hours
PS-502	Poultry Products Technology	3(2-2)
PS-504	Poultry Marketing and Economics	2(1-2)
PS-506	Poultry Meat Science	2(1-2)
PS-508	Poultry Farm Practices	1(0-2)
ABG- 502	Biotechnology in Poultry Breeding	3(2-2)
AN-502	Principles of Poultry Nutrition	2(1-2)
PATH-502	Poultry Pathology	3(2-2)
AE-516	Poultry Extension Education	2(1-2)

Semester-VII

Course Code	Title of Course	Credit Hours
PS-601	Farm Records and Data Analysis	2(1-2)
PS-603	Poultry Health Management	3(2-2)
PS-605	Research Project	2(0-4)
ABG-601	Conservation and Development of Indigenous Poultry Resources	2(1-2)
AN-000	Poultry Feed Industry	3(2-2)
MED-000	Poultry Medicine	3(2-2)
MGT-000	World Poultry Markets and Trade	3(3-0)
TOQ-000	Translation of Quran	1(1-0)

Semester-VIII

Course Code	Title of Course	Credit Hours
PS-000	Internship	6(0-12)

M.Phil and Ph.D Scheme of Studies

Following post graduate courses are offered to the students of M.Sc (Hons), M.Phil., PhD of all the University for making their understanding better for inter disciplinary research. These courses will be offered by the respective department in various subjects or sections

Department of Veterinary Basic Sciences

A. DEPARTMENT OF BIO-MEDICAL SCIENCES

A. Veterinary Anatomy and Histology

Code	Course Title(s)	Credit Hours
Anat-701	Histological and Histochemical Techniques	3(0-6)
Anat-702	Advanced Histology (General)	3(2-2)
Anat-703	Advanced Histology (Systemic)	4(2-4)
Anat-704	Comparative Anatomy of Endocrine Glands	3(2-2)
Anat-705	Surgical Anatomy	3(1-4)
Anat-706	Neuro Anatomy	4(2-4)
Anat-707	Mammalian Embryology	3(2-2)
Anat-708	Anatomy of the Reproductive System	3(2-2)
Anat-709	Experimental Embryology	3(0-6)
Anat-710	Techniques in Electron Microscopy	3(1-4)
Anat-711	Biological Ultrastructure	3(2-2)
Anat-712	Anatomy of Camel	3(2-2)
Anat-719	Special Problem	1(0-2)
Anat-720	Seminar I	1(1-0)
Anat-720	Seminar II	1(1-0)
Anat-799	Thesis	50(0-100)

B. Veterinary Pharmacology

Code	Course Title(s)	Credit Hours
PHARM-701	General Pharmacology	3(2-2)
PHARM-702	Advanced Pharmacology-1	4(3-2)
PHARM-703	Advanced Pharmacology-2	3(2-2)
PHARM-704	Pharmacokinetics	4(2-4)
PHARM-705	Pharmaceutics	3(2-2)
PHARM-706	Pharmacology of Central Nervous System	3(2-2)
PHARM-707	Pharmacology of Autonomic Nervous System	3(2-2)
PHARM-708	General Therapy	3(2-2)
PHARM-709	Pharmacotherapy	4(3-2)
PHARM-710	Chemotherapy	3(2-2)
PHARM-711	General Toxicology	4(3-2)
PHARM-712	Systemic Toxicology	3(3-0)
PHARM-713	Biochemical Pharmacology	3(2-2)
PHARM-714	Pharmacology of Autacoids	3(2-2)
PHARM-719	Special Problem	1(1-0)
PHARM-720	Seminar – I	1(1-0)
PHARM-720	Seminar II	1(1-0)
PHARM-799	Thesis	50(0-100)

C. Veterinary Physiology

Code	Course Title(s)	Credit Hours
PHYS-701	General Principles of Physiology	4(3-2)
PHYS-702	Physiology of Respiration and Cardiovascular System	4(3-2)
PHYS-703	Physiology of Nerve and Muscle	4(3-2)
PHYS-704	Physiology of Digestion and Metabolism	4(3-2)
PHYS-705	Endocrinology	4(3-2)
PHYS-706	Physiology and Biochemistry of Rumen	4(3-2)
PHYS-707	Physiology of Steroid Hormones	4(3-2)
PHYS-708	Cell Physiology	4(3-2)
PHYS-709	Physiological Techniques	4(0-8)
PHYS. 710	Physiology of Kidney and Sweat Glands	4(3-2)
PHYS-711	Comparative Hematology	4(3-2)
PHYS. 712	Physiology of Lactation	4(3-2)
PHYS-713	Advanced Avian Physiology	3(2-2)
PHYS-714	Clinical Physiology	3(1-4)
PHYS-715	Comparative Endocrinology	4(4-0)
PHYS-716	Clinical Endocrinology	4(3-2)
PHYS-717	Molecular Physiology	4(2-4)
PHYS-719	Special Problem	1(0-2)
PHYS-720	Seminar – I	1(1-0)
PHYS-720	Seminar - II	1(1-0)
PHYS-799	Thesis	50(0-100)

2. DEPARTMENT OF PARASITOLOGY AND MICROBIOLOGY

A. Veterinary Parasitology

Code	Course Title(s)	Credit Hours
PARA-701	Advanced Parasitology	4(3-2)
PARA-702	Advanced Protozoology	4(3-2)
PARA-703	Medical Entomology	4(3-2)
PARA-704	Techniques in Parasitology	4(2-2)
PARA-705	Wildlife Parasitology	3(1-2)
PARA-706	Chemotherapy of Parasitic Diseases	4(3-2)
PARA-707	Physiology of Endoparasites	4(3-2)
PARA-708	Immunology of Parasitic infections	4(3-2)
PARA-709	Ecology of Animal Parasites	3(3-0)
PARA-710	Medical Protozoology and Helminthology	4(3-2)
PARA-711	Applied Helminthology	4(3-2)
PARA-712	Diagnostic Parasitology	4(2-2)
PARA-713	Epidemiology of Parasitic Diseases	4(2-2)
PARA-714	In Vitro Cultivation of Parasites	4(2-2)
PARA-715	Biotechnology for Parasite Control	4(2-2)
PARA-716	Techniques in Molecular Parasitology	4(2-2)
PARA-719	Special Problem	1(1-0)
PARA-720	Seminar-I	1(1-0)
PARA-720	Seminar-II	1(1-0)
PARA-799	Thesis	50(0-100)

B. Veterinary Pathology

Code	Course Title (s)	Credit Hours
PATH-701	Cellular and Molecular Pathology	3(2-2)
PATH-702	Diagnostic Hematology and Cytology	3(0-6)
PATH-703	Necropsy Practice	3(1-4)
PATH-704	Diagnostic Pathological Biochemistry	3(0-6)
PATH-705	Oncology	3(2-2)
PATH-706	Pathology of Avian Bacterial and Parasitic Diseases	3(2-2)
PATH-707	Pathology of Intoxications	2(1-2)
PATH-708	Canine and Feline Pathology	3(2-2)
PATH-709	Equine Pathology	2(1-2)
PATH-710	Large Ruminant Pathology	3(2-2)
PATH-711	Techniques in Pathology	3(1-4)
PATH-712	Pathology of Camel Diseases	3(2-2)
PATH-713	Pathology of Avian Metabolic Diseases and Intoxications	2(1-2)
PATH-714	Fish Pathology	2(1-2)
PATH-715	Wildlife and Zoo Animal's Pathology	2(1-2)
PATH-716	Pathology of Avian Viral Diseases	3(2-2)
PATH-717	Small Ruminant Pathology	3(2-2)
PATH-718	Immunopathology	3(1-4)
PATH-719	Special Problem	1(1-0)
PATH-720	Seminar-I	1(1-0)
PATH-720	Seminar-II	1(1-0)
PATH-721	LABORATORY ANIMAL PATHOLOGY	2(1-2)
PATH-799	Thesis (M.Phil)	10(0-20)
PATH-799	Thesis (Ph.D)	50(0-100)

C. Microbiology

Code	Course Title(s)	Credit Hours
Micro-701	Advanced General Bacteriology	3(2-2)
Micro-702	Advanced Immunology	4(3-2)
Micro-703	Advanced Systemic Bacteriology	4(1-6)
Micro-704	Advanced Virology	4(3-2)
Micro-705	Mycology	3(1-4)
Micro-706	Microbial Physiology	4(3-2)
Micro-707	Cell Culture Techniques	3(2-2)
Micro-708	Oncogenic Viruses	3(2-2)
Micro-709	Molecular Biology of Bacterial viruses	3(2-2)
Micro-711	Advanced Spirochaetology	3(2-2)
Micro -712	Microbiological Techniques	3(1-4)
Micro -713	Immunological Techniques	3(0-6)
Micro -715	Techniques in Molecular Biology	4(2-4)
Micro -716	Advanced Veterinary Epidemiology	4(2-4)
Micro -717	Introduction to Microbial Genetics	3(2-2)
Micro -719	Special problem	1(1-0)
Micro -720	Seminar-I	1(1-0)
Micro -720	Seminar-II	1(1-0)
Micro -721	Vaccinology	3(2-2)
Micro -722	Avian Immunology	2(1-2)
Micro -723	Current Topics in Immunology	1(1-0)
Micro -724	Current Topics in Bacteriology	1(1-0)
Micro -725	Current Topics in Virology	1(1-0)
Micro -726	Current Topics in Mycology	1(1-0)
Micro -799	Thesis (for M.Phil)	10(0-20)
Micro -799	Thesis (for Ph.D)	50(0-100)

3. DEPARTMENT OF CLINICAL SCIENCES

A. Veterinary Theriogenology and Obstetrics

Code	Course Title(s)	Credit Hours
THER-701	Reproduction in farm animals	4(3-2)
THER-702	Artificial Insemination	4(3-2)
THER-703	Comparative Reproduction	4(3-2)
THER-704	Physiological Chemistry and Preservation of Semen	4(3-2)
THER-705	Advanced Obstetrics	4(3-2)
THER-706	Infertility and Genital Diseases	4(3-2)
THER-707	Equine Reproduction	4(3-2)
THER-708	Canine Reproduction	4(3-2)
THER-709	Embryo Transfer in Farm Animals	4(1-6)
THER-710	Diagnostic Ultrasonography in Animal Reproduction	3(1-4)
THER-711	Camel Reproduction	3(2-2)
THER-719	Special Problem	1(1-0)
THER-720	Seminar I	1(1-0)
THER-720	Seminar II	1(1-0)
THER-799	Thesis	50(0-100)

B. Veterinary Surgery

Code	Course Title(s)	Credit Hours
SURG-701	Advanced Small Animal Surgery	4(2-4)
SURG-702	Advanced Surgical Techniques	3(2-2)
SURG-703	Advanced Orthopedic Surgery	4(2-4)
SURG-704	Advanced Equine Surgery	4(2-4)
SURG-705	Advanced Ruminant Surgery	4(2-4)
SURG-706	Ophthalmic and Auricular Surgery	3(2-2)
SURG-707	Advanced Radiology and Ultrasonography	3(2-2)
SURG-708	Advanced Anesthesiology and Intensive Care	3(2-2)
SURG-709	Advanced Readings in Veterinary Surgery	1(1-0)
SURG-719	Special Problems	1(1-0)
SURG-720	Seminar-I	1(1-0)
SURG-720	Seminar-II	1(1-0)
SURG-799	Thesis	50(0-100)

C. Veterinary Medicine

Code	Course Title(s)	Credit Hours
MED-701	Design and Analysis of Clinical Trials	4(3-2)
MED-702	Biotechnology in Animal Health	4(3-2)
MED-703	Clinical Laboratory Aids in Diagnosis	4(2-4)
MED-704	Zoo and Wild Animal Medicine	3(2-2)
MED-705	Diseases of Fish	2(1-2)
MED-706	Epidemiological Approaches to Disease Investigation and Control	4(4-0)

Code	Course Title(s)	Credit Hours
MED-707	Advanced Veterinary Preventive Medicine	4(3-2)
MED-708	Veterinary Neonatology	3(3-0)
MED-709	Veterinary Public Health	4(3-2)
MED-710	Diseases of Mammary Glands of Dairy Animals	4(3-2)
MED-711	Advanced Dairy Herd Health	4(3-2)
MED-712	Advanced Readings in Veterinary Medicine	1(1-0)
MED-719	Special Problems	1(1-0)
MED-720	Seminar-I	1(1-0)
MED-720	Seminar-II	1(1-0)
MED-799	Thesis	50(0-100)

4. DEPARTMENT OF POULTRY SCIENCES

Code	Course Title(s)	Credit Hours
PS-701	Broiler Production	3(2-2)
PS-702	Layer Production	3(2-2)
PS-703	Poultry Breeders and Grand Parents Production	3(2-2)
PS-704	Poultry Housing and Environment	3(2-2)
PS-705	Poultry Feeding	3(2-2)
PS-706	Hatchery Management and Operation	3(2-2)
PS-707	Poultry Health & Hygiene	3(2-2)
PS-708	Egg and Egg Products	3(2-2)
PS-709	Poultry Meat & Meat Products	3(2-2)
PS-710	Avian Physiology	3(3-2)
PS-711	Avian Embryology	3(2-2)
PS-712	Avian Reproduction	3(3-2)
PS-713	Avian Behavior	3(2-2)
PS-714	Organic Poultry Production	3(2-2)

Code	Course Title(s)	Credit Hours
PS-715	Avian Transgenic Technologies	3(2-2)
PS-716	Advanced Readings in Poultry Science	3(2-2)
PS-719	Special Problem	1(1-0)
PS-720	Seminar	1(1-0)
PS-799	Thesis	6(0-12)
PS-801	Advanced Avian Production & Management	3(2-2)
PS-802	Recent Advances in Poultry Science	2(2-0)
PS-803	Prevention of Avian Diseases	3(2-2)
PS-804	Avian Endocrinology	3(2-2)
PS-805	Advance Poultry Nutrition	3(2-2)
PS-806	Modern Concepts of Poultry Breeding	3(2-2)
PS-820	Seminar-I	1(1-0)
PS-820	Seminar-II	1(1-0)
PS-899	Thesis	50(0-100)

5. DEPARTMENT OF LIVESTOCK PRODUCTION AND MANAGEMENT

A. Livestock Management

Code	Course Title(s)	Credit Hours
LM-701	Dairy Production	3(2-2)
LM-702	Behavior and Welfare of Farm Animals	3(2-2)
LM-703	Livestock Industry	3(3-0)
LM-704	Range Livestock Management	3(2-2)
LM-705	Draught Animal Management	3(2-2)
LM-706	Advanced Wool and Hair Science	3(2-2)
LM-707	Advances in Sheep & Goat Production	3(2-2)

Code	Course Title(s)	Credit Hours
LM-708	Recent Trends in Milk & Meat Production	3(3-0)
LM-709	Managing Livestock under Stress Conditions	3(2-2)
LM-710	Livestock Enterprises for Rural Development	3(2-2)
LM-719	Special Problem	1(1-0)
LM-720	Seminar	1(1-0)
LM-799	Thesis	6(0-12)

A. Animal Nutrition

Code	Course Title(s)	Credit Hours
AN-701	Physiology and Biochemistry of Nutrition	3(3-0)
AN-702	Feeds and Feeding	3(2-2)
AN-703	Energy Metabolism	3(2-2)
AN-704	Protein Metabolism	3(2-2)
AN-705	Mineral Nutrition	3(2-2)
AN-706	Vitamin Nutrition	3(2-2)
AN-707	Analytical Techniques in Animal Nutrition	3(0-6)
AN-708	Research Methods in Animal Nutrition	3(2-2)
AN-709	Avian Nutrition	3(2-2)
AN-710	Ruminant Nutrition	3(3-0)
AN-711	Equine Nutrition	2(2-0)
AN-712	Pet Nutrition	3(3-0)
AN-713	Animal Feed Milling Industry	3(2-2)
AN-719	Special Problem	1(1-0)
AN-720	Seminar	1(1-0)
AN-799	Thesis	6(0-12)

Code	Course Title(s)	Credit Hours
AN-717	Modern Concepts in Animal Feeding	2(2-0)
AN-719	Special Problem	1(1-0)
AN-720	Seminar-I	1(1-0)
AN-720	Seminar-II	1(1-0)
AN-799	Thesis (for M.Phil)	10(0-20)
AN-799	Thesis (for Ph.D)	50(0-100)

C. Animal Breeding and Genetics

Code	Course Title(s)	Credit Hours
ABG-701	Advanced concepts in genetics	3(2-2)
ABG-702	Population and quantitative genetics	4(3-2)
ABG-703	Molecular genetics & genetic engineering in farm animals	4(3-2)
ABG-704	Selection methods and breeding systems in farm animals	2(2-0)
ABG-705	Biometrical techniques in animal breeding	3(2-2)
ABG-706	Statistical genetics and R programming	3(1-4)
ABG-707	Theory of inbreeding	2(2-0)
ABG-708	Poultry genetics and breeding	3(2-2)
ABG-709	Fish genetics and breeding	3(2-2)
ABG-710	Companion animals breeding & genetics	3(3-0)
ABG-711	Cytogenetics and immunogenetics	3(2-2)
ABG-712	Bioinformatics and genomics	3(2-2)
ABG-713	Theory of epigenetics	3(2-2)
ABG-714	Genetic conservation of wild and farm animal	3(3-0)
ABG-715	Advances in population and quantitative genetics	3(3-0)
ABG-716	Advances in animal molecular genetics	3(2-2)
ABG-717	Farm animal breeding plans	3(2-2)
ABG-718	Genetics of fitness traits in farm animals	3(2-2)
ABG-719	Special problem	1(1-0)
ABG-720	Seminar-1	1(0-2)
ABG-720	Seminar-2	1(1-0)
ABG-799	Thesis (for M.Phil)	10(0-20)
ABG-799	Thesis (for Ph.D)	50(0-100)

DIRECTOR : Prof. Dr. Khalid Saifullah Khan

This Institute have the following Departments:-

I. DEPARTMENT OF SOIL SCIENCE

Chairman	Prof. Dr. Khalid Saifullah Khan
Professors	Dr. Riaz Ahmad Dr. Ghulam jilani
Associate Professors	Dr. Rifat Hayat Dr. Shahzada Sohail Ijaz Dr. Muhammad Akmal Dr. Qaiser Hussain
Assistant Professors	Dr. Arshad Nawaz Chaudhary
Lecturer	Dr. Tanveer Iqbal Dr. Rabia Khalid

II. DEPARTMENT OF ENVIRONMENTAL SCIENCES :

The Department offers degree programmes at Undergraduate level BS(Environmental Sciences) as well as Postgraduate levels (M.Phil and Ph.D).

Chairman	Prof. Dr. Azeem Khalid
Assistant Professor	Dr. Shahid Mahmood Dr. Beenish Saba
Lecturer	Ms. Aniq Batool
Adjunct Professor	Dr. Mauro Centritto (CNR-IPSP, Italy)

<p>B.Sc (Hons.) Agriculture Soil Science</p>	<p>A minimum of eight semesters duration program after FSc. (Pre-Medical or Pre-Engr). A person holding Intermediate Science Certificate, (Pre-Medical or Pre-Engineering), or an equivalent certificate from any recognized Institute with at least second division or overall 45% marks shall be eligible for admission to BSc. (Hons.) Agriculture. The Soil Science as major subject is opted after fourth semesters.</p>
<p>M.Sc (Hons.) Agriculture Soil Science</p>	<p>A minimum of four semesters duration program after B.Sc. (Hons.) Agriculture degree, in soil science. Must have passed the B. Sc. (Hons) Agri. Degree with minimum CGPA of 2.50 or its equivalent, and 45% marks or its equivalent relating to the subject he/she desires to take up.</p>
<p>Ph.D Soil Science</p>	<p>This program is offered after M.Sc. (Hons.) Agric. (Soil Science), a minimum of six semesters duration. Eligibility: M.Sc (Hons.) Agriculture with CGPA of at least 3.00/4.00 in the relevant discipline. The Ph.D. applications must be accompanied by comprehensive project proposals. Must have passed GAT(Subject) with at least 60% marks.</p>
<p>BS (Environmental Sciences)</p>	<p>A minimum of eight semesters and maximum of twelve semesters duration program after F.Sc. (Pre-Medical) with at least 55% marks.</p>
<p>M.Phil Environmental Sciences</p>	<p>A minimum of four semesters and maximum of six semesters duration program for full time students and minimum of six semesters and maximum of eight semesters duration programme for part time students after M.Sc./B.Sc. (Hons.)/BS in the relevant field after Sixteen year education (M.Sc 2 years; BS degree in relevant subject with minimum CGPA of 2.50 out of 4.00 or 50% marks. Must have passed University Entrance Test.</p>
<p>Ph.D Environmental Sciences</p>	<p>A minimum of six semesters and maximum of ten semesters duration programme for full time students and minimum of eight semesters duration programme for part time students after M.Phil/ MS/M.Sc. (Hons.) in the relevant field. MS/M.Phil/ M.Sc (Hons.) with first division in relevant field OR CGPA of at least 3.00/4.00. The Ph.D applications must be accompanied by comprehensive project proposals. Must have passed University Entrance Test with 70% marks.</p>

SCHEME OF STUDIES FOR B.Sc (Hons.) Agriculture in Soil Science

I SEMESTER

Course No.	Course Title	Credit Hours
AEC-301	Principles of Agricultural Economics	3(3-0)
AGR-301	Basic Agriculture	3(2-2)
ENG-301	Fundamental English	3(3-0)
HORT-301	Introductory Horticulture	3(2-2)
SSH-301	Pakistan Studies	3(3-0)
MATH-301/ BIOL-301	Mathematics-I / Biology-I	3(2-2)
SS-301	Introduction to Soil Science	3(2-2)

II SEMESTER

Course No.	Course Title	Credit Hours
AGR-302	Summer Crops	3(2-2)
ENG-302	Communication Skills	3(3-0)
FT-302	Introduction to Food Science	2(2-0)
HORT-302	Horticultural Crop Production	3(2-2)
IS-303/ET-302	Islamic Studies/Ethics	2(2-0)
IT-302	Introduction to Information Technology	3(1-4)
MATH-302/ BIOL-302	Mathematics-II / Biology-II	3(2-2)
AS-302	Animal Husbandry	3(2-2)
SS-302	Soil and Water Conservation	3(2-2)

III SEMESTER

Course No.	Course Title	Credit Hours
AE-401	Introduction to Agricultural Extension	3(2-2)
AEN-401	Farm Mechanization & Water Conservation Engineering	3(2-2)
AGR-401	Winter Crops	3(2-2)
ENT-401	Introductory Entomology	2(1-2)
FT-401	Food Processing and Preservation	3(2-2)
PBG-401	Introductory Genetics	2(1-2)
PP-401	Introductory Plant Pathogens	2(1-2)
HA-301	Introduction to Hydroponic Agriculture	2(1-2)

IV SEMESTER

Course No.	Course Title	Credit Hours
AE-402	Introduction to Communication in Agricultural Extension	3(2-2)
ENT-402	Applied Entomology	3(2-2)
FR-401	Introduction to Forest & Range Manag.	3(2-2)
PBG-402	Introductory Plant Breeding	3(2-2)
PP-402	Introductory Plant Pathology	3(2-2)
SS-402	Instrumentation & Lab. Techniques	3(2-2)
STAT-402	Introduction to Statistics	3(2-2)
MGT-402	Introduction to Agri. Busi. Management	3(1-4)

V SEMESTER

Course No.	Course Title	Credit Hours
SS-501	Physical Properties of Soils	3(2-2)
SS-503	Chemical Properties of Soils	3(2-2)
SS-505	Land Degradation and Management	3(3-0)
SS-507	Soil Genesis and Morphology	3(2-2)
SS-509	Carbon Sequestration in Soil	3(2-2)
SS-511	Municipal & Agro Waste Management	3(3-0)

VI SEMESTER

Course No.	Course Title	Credit Hours
SS-502	Salt-Affected Soils and Water Quality	3(2-2)
SS-504	Soil Fertility and Fertilizer Use	3(2-2)
SS-506	Soil Survey and Land Evaluation	3(2-2)
SS-508	Soil Microbiology	3(2-2)
AGR-502	Physiology of Crop Growth & Develop.	3(2-2)
SS-510	Soil-Water-Plant Relationship	3(3-0)
STAT-502	Experimental Design	2(1-2)

VII SEMESTER

Course No.	Course Title	Credit Hours
SS-601	Biochemistry of Soil Processes	3(2-2)
SS-603	Environmental Pollution & Management	3(3-0)
SS-605	Nuclear Techniques in Soil Research	3(3-0)
SS-607	Research Planning & Scientific Writing	3(2-2)
SS-609	Trace Elements in Agriculture	3(2-2)

VIII SEMESTER

Course No.	Course Title	Credit Hours
SS-608	Internship/Scientific Report Writing	5(0-10)

Scheme of Studies for M.Sc (Hons.) Agri./Ph.D Agri. in Soil Science

Course No.	Course Title	Credit Hours
M.Sc (Hons.) Soil Science		
SS-701	Principles and uses of Laboratory Equipment	3(2-2)
SS-702	Soil Chemistry	3(2-2)
SS-703	Soil Fertility and Plant Nutrition	3(2-2)
SS-704	Soil Microbiology and Biochemistry	3(2-2)
SS-705	Soil Classification	3(2-2)
SS-706	Salt-Affected and Waterlogged Soils	3(3-0)
SS-707	Soil Physics	3(2-2)
SS-708	Soil Mineralogy	3(3-0)
SS-709	Soil Genesis and Morphology	3(2-2)
SS-710	Soil and Water Pollution & its Control	3(2-2)
SS-711	Soil and Water Resources Management	3(3-0)
SS-712	Fertilizer Technology and Marketing	3(3-0)
SS-719	Special Problem	1(1-0)
SS-720	Seminar-I	1(1-0)
SS-799	Research & Thesis	10(0-20)
Ph.D (Soil Sciences)		
SS-713	Advanced Soil Physics	3(3-0)
SS-714	Advanced Soil Fertility	3(3-0)
SS-715	Advanced Soil Microbiology	3(3-0)
SS-716	Advanced Soil Chemistry	3(3-0)
SS-719	Special Problem	1(1-0)
SS-720	Seminar-I	1(1-0)
	Seminar-II	1(1-0)
SS-799	Research & Thesis	50(0-100)

SCHEME OF STUDIES FOR BS(ENVIRONMENTAL SCIENCES) PROGRAMME

I SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	ENV-301	Introduction to Environmental Sciences	3(3-0)
2	SOS-301	Moral Foundation of Education	2(2-0)
3	SSH-301	Pakistan Studies	2(2-0)
4	BIOL-301	Biology-I	3(2-2)
5	ENG-301	Functional English	3(3-0)
6	CS-301	Introduction to Computing	3(2-2)
			16

II SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	FR-306	Forestry and Climate Change	3(3-0)
2	ENV-302	Environmental Chemistry	3(2-2)
3	ENG-302	Communication Skills	3(3-0)
4	SSH-303	Professional Ethics	3(3-0)
5	BIOL-302	Biology-II	3(2-2)
6	IS-302/ET-302	Islamic Studies/Ethics	2(2-0)
			17

III SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	ENV-401	Environmental Microbiology	3(2-2)
2	ENV-402	Biodiversity and Conservation	3(3-0)
3	ENV-403	Environmental Toxicology	3(3-0)
4	ENV-404	Environmental Law and Policy	3(3-0)
5	STAT-401	Introduction to Statistics	3(3-0)
6	ENV-405	Introduction to Agro-Environment	3(3-0)
			18

IV SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	ENV-406	Environmental Management Systems	3(3-0)
2	ENV-407	Air and Noise Pollution	3(3-0)
3	ENV-408	Natural Resource Management	3(3-0)
4	ENV-409	Soil and Environment	3(3-0)
5	ENV-410	Occupational Safety, Health and Environment	3(3-0)
6	MATH-303	General Mathematics	3(3-0)
			18

V SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	ENV-501	Environmental Impact and Risk Assessment	3(3-0)
2	ENV-502	Introduction to GIS and Remote Sensing	3(3-0)
3	ENV-503	Surface and Ground Water Hydrology	3(2-2)
4	MGT-515	Introduction to Human Resource Management	3(3-0)
5	HORT-506	Introduction to Landscape Gardening	3(2-2)
6	AEC-505	Agricultural Problems of Pakistan	3(3-0)

18**VI SEMESTER**

S.No.	Course No.	Course Title	Credit Hours
1	ENV-504	Climatology	3(3-0)
2	ENV-505	Environmental Economics	3(3-0)
3	ENV-506	Wastewater Treatment Process Design	3(3-0)
4	ENV-507	Public Health and Environment	3(3-0)
5	ENV-508	Environmental Monitoring	3(3-0)
6	HORT-509	Arid Horticulture	3(2-2)

18**VII SEMESTER**

S.No.	Course No.	Course Title	Credit Hours
1	ENV-601	Environmental Analytical Techniques	3(3-0)
2	ENV-602	Physico-Chemical Processes for Wastewater Treatment	3(2-2)
3	ENV-603	Energy and Environment	3(3-0)
4	ENV-604	Toxic Organics and Trace Metals in Ecosystem	3(2-2)
5	ENV-605	Environmental Pollution	3(3-0)

15**VIII SEMESTER**

S.No.	Course No.	Course Title	Credit Hours
1	ENV-606	Environmental Profile of Pakistan	3(3-0)
2	ENV-607	Cleaner Production Technology	3(3-0)
3	ENV-608	Disaster Risk Management	3(3-0)
4	-	Final Year Research Project	3(3-0)

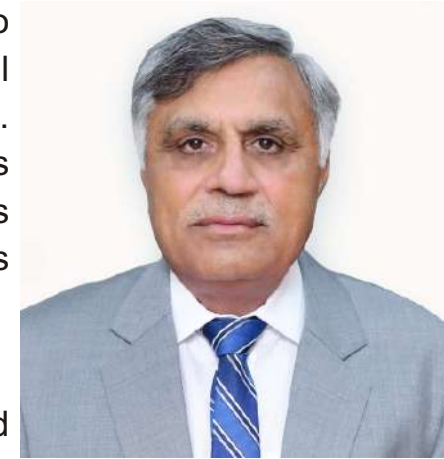
12**ELECTIVE COURSES**

	Course No.	Course Title	Credit Hours
Elective-I	ENV-305	Waste Reuse and Recycling	3(3-0)
Elective-II	ENV-410	Bioremediation	3(3-0)
Elective-III	ENV-509	Pollutant Movement in Soil	3(3-0)
Elective-IV	ENV-608	Ecotourism	3(3-0)

Scheme of Studies for M.Phil/Ph.D in Environmental Sciences

COURSE	TITLE OF COURSE	CREDITS
ENV-702	Health, Safety & Environmental Management	3(3-0)
ENV-703	Bioprocesses: Principles and Application	3(2-2)
ENV-704	Research Planning and Report Writing	3(2-2)
ENV-705	Advanced Environmental Analytical Techniques	3(2-2)
ENV-706	Environment Modeling	3(3-0)
ENV-707	Pollution Control Technologies	3(2-2)
ENV-708	Remote Sensing and GIS Applications in Environment	3(3-0)
ENV-709	Bioremediation of Environmental Contaminants	3(3-0)
ENV-710	Solid Waste Management	3(3-0)
ENV-711	Agricultural Pollution Management	3(3-0)
ENV-714	Eco-Health Management and Safety Approaches	3(3-0)
ENV-715	Public Health and Human Ecology	3(3-0)
ENV-716	Global Environmental Changes	3(3-0)
ENV-719	Special Problem	1(1-0)
ENV-720	Seminar-I	1(1-0)
	Seminar-II	1(1-0)
ENV-722	Waste Reuse and Recycling	3(3-0)
ENV-724	Advanced Processes for Wastewater Treatment	3(3-0)
ENV-726	Environmental Biotechnology	3(2-2)
ENV-727	Impact of Natural Disasters on Global Environment	3(3-0)
ENV-728	Energy Conservation and Renewable Energy Resources	3(3-0)

Agricultural Engineering is a discipline of engineering that applies engineering skills to improve agricultural production and processing. The primary concern of agricultural engineering is to solve the problems of providing food and fiber for the people of world. These problems include labor intensive methods of agricultural activities, less sophisticated agricultural machinery, age old sowing and harvesting techniques as well as lack of efficient irrigation systems and drainage practices. All these problems result in less yields which that raise serious questions on food security.



The agricultural productivity depends upon biological, hydrological, chemical and mechanical inputs. Mechanization is the most important among the four major inputs for crop production. Agricultural mechanization is the process which involves the use of agricultural machinery to increase the yield dynamically. Agricultural mechanization grips the use of tools, implements, and machines for agricultural land development, land preparation, crop production, harvesting, and storage and on-farm practices. Precision and digital agricultural tools and machines are covered under agricultural mechanization. Moreover, efficient agricultural machinery increases the production by decreasing the costs of production.



MISSION

The mission of the Faculty of Agricultural Engineering and Technology is to teach, train and produce high quality engineering graduates to solve problems in agriculture specially focus on dry land/rainfed regions through research, development and adoption of precise engineering technologies and automation to improve the livelihood of farming community.



The faculty has the following Departments:-

- i. Department of Land & Water Conservation Engineering
- ii. Department of Farm Machinery & Precision Engineering
- iii. Department of Structures & Environmental Engineering
- iv. Department of Energy Systems Engineering

Faculty

Faculty Incharge

Prof. Dr. Qamar-uz-Zaman

Focal Person

Dr. M. Jehanzeb Masud Cheema

Consultants

Prof. Dr. Muhammad Yasin

Dr. Ahmad Shafi

Engr. Ghulam Akbar

Lab Engineers

Engr. Tariq Maqsood

Dr. Fiaz Hussain

Engr. Syed Mudassar Raza

Engr. Zahoor Ahmed Ibupoto

Engr. Rana Shahzad Noor

Department of Land & Water Conservation

Associate Professor/Chairman Dr. M. Jehanzeb Masud Cheema

Assistant Professor Dr. Naveed Anjum

Lecturer Dr. Muhammad Usman

Department of Farm Machinery & Precision Engineering

Lecturer/Incharge Dr. Tahir Iqbal

Lecturer Dr. Zia-ul-Haq

Department of Structures & Environmental Engineering

Assistant Professor/Incharge Dr. Muhammad Azam

Assistant Professor Engr. Asim Gulzar

Lecturer Engr. Muhammad Akhlaq

Department of Energy Systems Engineering

Assistant Professor/Incharge Dr. Muhammad Umair

Assistant Professor Dr. Arsalan Afzal

LABORATORIES

Faculty of Agricultural Engineering has newly established Labs. with latest and state of art equipments. Following labs are available in the faculty;

1. Hydrodynamics Lab.
2. Irrigation & Drainage Lab.
3. Soil Mechanics Lab.
4. Fluid Mechanics Lab.
5. I.C & Tractor Lab.
6. Food Engineering & Processing Lab.
7. Thermodynamic Lab.
8. Renewable Energy Lab.
9. Bio Energy lab.
10. Mechanics Lab.
11. Survey & Leveling Lab.
12. Water Quality and Environment Lab.
13. CAD/CAM Lab.
14. Engineering Workshop

The B.Sc Agricultural Engineering program offered by Faculty of Agricultural Engineering & Technology is accredited by Pakistan Engineering Council (PEC). Further B.Sc Agricultural Engineering program is designed as per PEC guidelines. The B.Sc Agricultural Engineering program has four Programme Educational Objectives (PEO) and twelve Programme Learning Outcomes (PLOs)

PROGRAMME EDUCATIONAL OBJECTIVES (PEO's) OF B.SC AGRICULTURAL ENGINEERING

PROGRAMME EDUCATIONAL OBJECTIVE- 1 (PEO-1)

To equip the graduates with engineering knowledge and skills required for analysis and investigation of engineering problems related to agriculture specially focus on dry land/rainfed regions.

PROGRAMME EDUCATIONAL OBJECTIVE- 2 (PEO-2)

The graduates capable of using modern engineering and IT tools for design and development of solutions for automation and precision to improve the efficiency and efficacy in agriculture.

PROGRAMME EDUCATIONAL OBJECTIVE- 3 (PEO-3)

The graduates having ethical, professional and societal responsibilities and commitments to effectively communicate the engineering solutions to improve the livelihood of farming community.

PROGRAMME EDUCATIONAL OBJECTIVE- 4 (PEO-4)

Graduated alumni with management skills for successful planning and execution of research and development projects related to land, water, farm structures, environment, energy, mechanization and precision in agriculture in a rainfed/dry land regions.

PROGRAM LEARNING OUTCOMES (PLOS) OF B.SC AGRICULTURAL ENGINEERING

- PLO1 - ENGINEERING KNOWLEDGE
- PLO2 - PROBLEM ANALYSIS
- PLO3 - DESIGN/DEVELOPMENT OF SOLUTIONS
- PLO4 - INVESTIGATION
- PLO5 - MODERN TOOL USAGE
- PLO6 - THE ENGINEER AND SOCIETY
- PLO7 - ENVIRONMENT AND SUSTAINABILITY
- PLO8 - ETHICS
- PLO9 - INDIVIDUAL AND TEAM WORK
- PLO10 - COMMUNICATION
- PLO11 - PROJECT MANAGEMENT
- PLO12 - LIFELONG LEARNING

PROGRAMS TO BE OFFERED

B.Sc. Agricultural Engineering (4 Years)

As per requirements set by Pakistan Engineering council, the Faculty admits the candidates to B.Sc Agricultural Engineering programs with the following qualifications;

- i. F.Sc Pre Engineering with at least 60 % marks. Or Diploma In Auto & Diesel/Auto & Farm Machinery /Automation/Civil/ Machinery / Mechanical / Mechanical with any specialization from a recognize board with at least 60% marks.
- ii. Should qualify Entry Test.
- iii. The Examination will be arranged by the Dean FAE&T, PMAS-AAUR.
- iv. The merit for admission will be prepared on the basis of F.Sc and entry test marks @70:30, respectively.
- v. An additional entry test fee of Rs.1000/- will be charged from the candidates.

Academic Standing:

- | | | |
|-----|--|------|
| (a) | Maximum Grade Point Average | 4.00 |
| (b) | Minimum Grade Point Average for obtaining the degree | 2.50 |

To remain on the roll of the University a student shall be required to maintain the following minimum GPA / CGPA in each semester:

Semester	CGPA
1st	0.75
2nd	1.00
3rd	1.25
4th	1.50
5th	1.75
6th	2.00
7th	2.25
8th	2.50

Distribution of Seats for B.Sc Agricultural Engineering

CATEGORY	NUMBER OF SEATS TOTAL
1.Open Merit	31
2.Quota	
Other Provinces	02
Armed Forces	02
GB/AJK	01
FATA	02
University Employee Son/Daughter	01
Diploma in Auto & Machinery/Civil/ Mechanical from a recognize board	01
Total	40

2% Quota reserved for minorities

M.Sc (Hons.) Agricultural Engineering (2 Years)

The Faculty admits the candidates to M.Sc (Hons.) Agricultural Engineering programs with the following qualifications;

- i. Sixteen years of education with the last degree in B.Sc Agricultural/Mechanical/Civil/Electrical/ Environmental/Food/Energy Engineering with minimum CGPA 2.50 out of 4.0 (in the Semester System) in the last degree.
- ii. Should qualify Entry Test
- iii. An additional entry test fee of Rs.2000/- will be charged from the candidates

Academic Standing:-

- a. Maximum grade point average: 4.00
 - b. Minimum grade point average for obtaining the degree: 2.50
- To remain on roll of the University a student shall be required to maintain the following minimum CGPA in each semester.

Semester	CGPA
1st	1.50
2nd	1.75
3rd	2.00
4th	2.50

Ph.D Agricultural Engineering (3 Years)

The Faculty admits the candidates to Ph.D Agricultural Engineering programs with the following qualifications;

- i. Eighteen years of education with the last degree in M.Sc (Hons.) Agricultural/Mechanical/Civil/ Electrical/Food/Water Resource/ Energy Engineering with minimum CGPA 3.00 out of 4.0 (in the Semester System) in the last degree.
- ii. Entry Test marks not less than 70 %.
- iii. The Examination will be arranged by the Dean FAE&T
- iv. An additional entry test fee of Rs. 2000/- will be charged from the candidates.

Academic Standing:-

- a. Maximum grade point average: 4.00
 - b. Minimum grade point average for obtaining the degree: 3.00
- i. To remain on roll of the University a student shall be required to maintain the minimum GPA/CGPA of 3.00.
 - ii. The candidate who fails to maintain CGPA of 3.00 may be allowed to repeat once the courses of the previous semesters in which he has failed.

SCHEME OF STUDIES FOR B.SC (AGRICULTURAL ENGINEERING) PROGRAMME

I SEMESTER

S.No.	Course No.	Course Title	Credit Hours
<u>Major Courses</u>			
1	SEE-301	Engineering Drawing & Graphics	2(1-1)
<u>Minor Courses</u>			
2	MATH-301	Calculus and Analytical Geometry	3(3-0)
3	PHY-301	Applied Physics	3(2-1)
4	IS-301	Islamic Studies and Ethics	2(2-0)
5	ENG-301	Functional English	2(2-0)
6	AGRO-301	Basic Agriculture	2(1-1)
7	CS-301	Information & Communication Tech. (ICT)	3(2-1)

II SEMESTER

S.No.	Course No.	Course Title	Credit Hours
<u>Major Courses</u>			
1	LWCE-302	Fluid Mechanics	3(2-1)
2	FMPE-302	Metallurgy and Workshop Practices	2(1-1)
3	SEE-302	Surveying and Leveling	3(2-1)
4	SEE-304	Engineering Materials	2(1-1)
<u>Minor Courses</u>			
5	CHEM-302	Industrial Chemistry	2(1-1)
6	ENG-302	Communication Skills	2(2-0)
7	MATH-302	Linear Algebra	3(3-0)

III SEMESTER

S.No.	Course No.	Course Title	Credit Hours
<u>Major Courses</u>			
1	ESE-401	Applied Thermodynamics	3(2-1)
2	SEE-401	Engineering Mechanics	3(2-1)
3	SEE-403	Strength of Materials	3(2-1)
4	FMPE-401	Manufacturing Engineering	2(1-1)
<u>Minor Courses</u>			
5	SSH-401	Pak. Studies & Global Perspective	2(2-0)
6	SS-401	Soil Science	3(2-1)

IV SEMESTER

S.No.	Course No.	Course Title	Credit Hours
<u>Major Courses</u>			
1	FMPE-402	Machine Design	3(2-1)
2	LWCE-402	Soil Mechanics	3(2-1)
3	SEE-402	Environmental Engineering	3(2-1)
4	FMPE-404	Instrumentation and Control	3(2-1)
<u>Minor Courses</u>			
5	CS-402	Artificial Intelligence (AI)	2(1-1)
6	MATH-402	Differential Equations	3(3-0)

V SEMESTER

Course No.	Course Title	Credit Hours
Major Courses		
FMPE-501	IC Engine and Tractors	3(2-1)
LWCE-501	Open Channel Hydraulics	3(2-1)
LWCE-503	Pumps and Tubewells	2(1-1)
AET-501	Technical Writing & Presentation Skills	2(2-0)
Minor Courses		
MATH-501	Numerical Analysis	2(2-0)
STAT-501	Probabilities & Statistics	3(3-0)
Social Sci Elective-I		
RS-501	Sociology for Engineers (or offered course)	2(2-0)



VI SEMESTER

Course No.	Course Title	Credit Hours
Major Courses		
LWCE-502	Engineering Hydrology	3(2-1)
LWCE-504	Irrigation Engineering	3(2-1)
FMPE-502	Earth Moving Machinery	2(1-1)
ESE-502	Rural Electrification	2(1-1)
MDE Elective-I		
SEE-502	Wastewater Engineering (or offered course)	3(2-1)
Social Sci Elective-II		
RS-502	Economics for Engineers (or offered course)	2(2-0)
Management Elective-I		
AET-502	Engineering Project Management (or offered course)	2(2-0)

VII SEMESTER

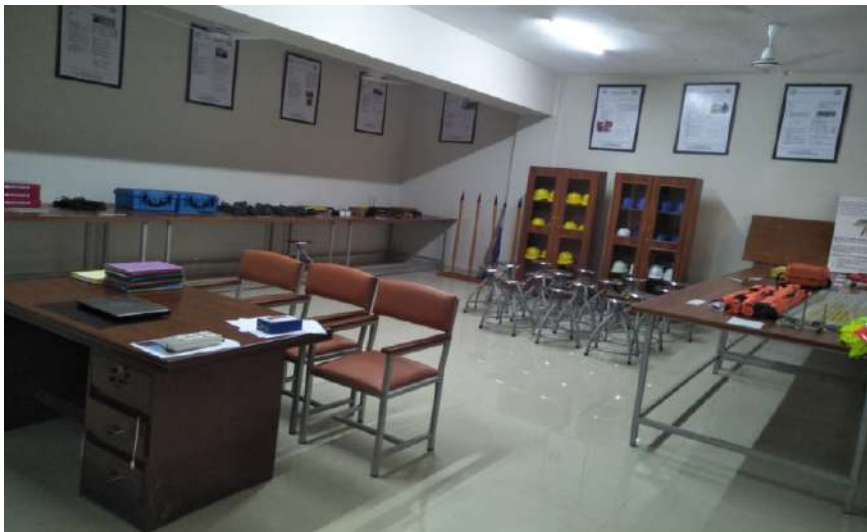
Course No.	Course Title	Credit Hours
Major Courses		
SEE-601	Solid Waste Engineering	3(2-1)
FMPE-601	Agricultural Process Engineering	3(2-1)
LWCE-601	GIS & Remote Sensing	2(1-1)
FMPE-603	Farm Machinery and Automation	3(2-1)
	Engg. Elective-I	2(1-1)
Management Elective-II		
AET-603	Entrepreneurship (or offered course)	2(2-0)
AET-601	Final Year Design Project (FYDP)-I	3(0-3)

VIII SEMESTER

Course No.	Course Title	Credit Hours
Major Courses		
SEE-602	Farm Structures and Control Sheds	3(2-1)
LWCE-602	Drainage Engineering	3(2-1)
MDE Elective-II		
ESE-602	Alternate and Renewable Energy (or offered course)	2(1-1)
	Engg. Elective-II	3(2-1)
	Engg. Elective-III	3(2-1)
AET-602	Final Year Design Project (FYDP)-II	3(0-3)

Note: Following are mandatory for award of BSc(Hons) Agricultural Engineering;

1. A fifteen days supervised Survey Camp arranged by the faculty as the requirement of the degree
2. A supervised internship training arranged by faculty after sixth semester as the requirement of the degree



Courses for Engineering Electives Streams

Department of Land and Water Conservation Engineering

LWCE-603	Soil and Water Conservation Engineering
LWCE-604	Farm Irrigation Systems
LWCE-605	Water Resources Assessment and Management
LWCE-606	Farm Water Management
LWCE-607	Soil Dynamics
LWCE-608	Groundwater Hydrology

Department of Farm Machinery and Precision Engineering

FMPE-504	Boiler Engineering and Power Plants
FMPE-506	Agro-Industrial Engineering
FMPE-602	Precision Agriculture
FMPE-604	Robotics in Agriculture
FMPE-605	Post-Harvest Technologies
FMPE-606	Design of Agricultural Machinery
FMPE-607	Hydraulic Machinery and Automation
FMPE-608	Emerging Farm Engineering Systems

Department of Energy Systems Engineering

ESE-502	Electronics Engineering
ESE-601	Energy in Agriculture
ESE-602	Solar Energy
ESE-604	Fundamentals of Bio Energy Engineering

Department of Structures and Environmental Engineering

SEE-504	Quantity Survey and Cost Estimation
SEE-506	Landscape Engineering
SEE-508	Environmental Impact Assessment
SEE-603	EIA and EMS for Industries
SEE-604	Environmental Modeling and Simulation
SEE-605	Sustainable Environment
SEE-606	Cleaner Production Techniques

COURSES FOR M.SC (HONS.)/PH.D in AGRICULTURAL ENGINEERING

Department of Land & Water Conservation Engineering

S.No.	Course No.	Course Title	Credit Hours
1	LWCE-701	Computational Methods in Water Resources Engineering	3(3-0)
2	LWCE-702	Advance Open Channel Hydraulics	3(2-1)
3	LWCE-703	Advanced Hydrology	3(2-1)
4	LWCE-704	Advanced Groundwater Hydrology	3(2-1)
5	LWCE-705	Groundwater Modeling	3(2-1)
6	LWCE-706	Advanced Drainage Engineering	3(2-1)
7	LWCE-707	Resource Conservation Engineering	3(3-0)
8	LWCE-708	Planning and Design of Irrigation Systems	3(2-1)
9	LWCE-709	Statistical Hydrology	3(2-1)
10	LWCE-710	Surface Irrigation Modeling	3(3-0)
11	LWCE-711	System Analysis of Integrated Water Resources Engineering	3(2-1)
12	LWCE-712	Spate Irrigation Practices and Management	3(2-1)
13	LWCE-713	Design of Hydraulics Structures	3(3-0)
14	LWCE-714	Water Quality Management	3(2-1)
15	LWCE-715	River Engineering	3(3-0)
16	LWCE-716	Water Resources Management	3(3-0)
17	LWCE-717	Climate Change and Water Resources	3(2-1)
18	LWCE-718	Watershed Management	3(2-1)
19	LWCE-719	Catchment Modeling	3(2-1)
20	LWCE-720	Flood Estimation & Control	3(2-1)
21	LWCE-721	Remote & GIS for Water Resource Management	3(2-1)
22	AET-719	Special Problems	1(1-0)
23	AET-720	Seminar	1(1-0)

Department of Farm Machinery & Precision Engineering

S.No.	Course No.	Course Title	Credit Hours
1	FMPE-701	Advanced Power and Machinery	3(2-1)
2	FMPE-702	Agricultural Storage Engineering	3(2-1)
3	FMPE-704	Experimental Stress Analysis	3(2-1)
4	FMPE-705	Farm Machinery and Environment	3(2-1)
5	FMPE-706	Grain Preservation and Processing	3(2-1)
6	FMPE-707	Hydraulic Control Systems	3(2-1)
7	FMPE-708	Harvesting Machinery	3(2-1)
8	FMPE-709	Instrumentation and Machine Automation	3(2-1)
9	FMPE-710	Operations Research	3(2-1)
10	FMPE-711	Product Design and Development	3(2-1)
11	FMPE-713	Similitude in Engineering	3(2-1)
12	FMPE-714	Tillage and Traction Dynamics	3(2-1)
13	FMPE-715	Theory of Manufacturing Process	3(2-1)
14	FMPE-716	Precision Agriculture	3(2-1)
15	FMPE-717	Emerging Farm Technologies	3(2-1)
16	AET-719	Special Problem	1(1-0)
17	AET-720	Seminar	1(1-0)

Department of Farm Structures and Environmental Engineering

S.No.	Course No.	Course Title	Credit Hours
1	SEE-701	Parameters and Methods of Environmental Impact Assessment	3(2-1)
2	SEE-702	Contamination Transport in Soils	3(2-1)
3	SEE-703	Design of Water Supply and Sewage	3(2-1)
4	SEE-704	Energy and Environment	3(2-1)
5	SEE-705	Environmental Control in Farm Structures and Landscaping	3(2-1)
6	SEE-706	Environmental Health Engineering	3(2-1)
7	SEE-707	Farm Waste Disposal	3(2-1)
8	SEE-708	Geo Environment	3(2-1)
9	SEE-709	Land Surveying	3(2-1)
10	SEE-710	Machine and Environment	2(2-0)
11	SEE-711	Air and Noise Pollution Control	3(3-0)
12	SEE-712	Theory and Design of Structures	3(2-1)
13	SEE-713	Wastewater Engineering	3(2-1)
14	AET-719	Special Problem	1(1-0)
15	AET-720	Seminar	1(1-0)

Department of Energy System Engineering

S.No.	Course No.	Course Title	Credit Hours
1	ESE-701	Applied Solar Energy	3(2-1)
2	ESE-702	Energy Systems Modelling and Simulation	3(2-1)
3	ESE-703	Energy Audit and Management	3(2-1)
4	ESE-704	Computer Modeling of Engineering Systems	3(2-1)
5	ESE-705	Bio Energy Engineering	3(2-1)
6	ESE-706	Hydro Power Plants	3(2-1)
7	ESE-707	Wind Energy Engineering	3(2-1)
8	ESE-708	Instrumentation in Energy Systems	3(2-1)
9	ESE-709	Refrigeration And air Conditioning	3(2-1)
10	ESE-710	Fuels And Combustion	2(2-0)
11	ESE-711	Advanced Clean Coal Technologies	3(3-0)
12	ESE-712	Renewable Energy Engineering	3(2-1)
13	ESE-713	Hydrogen Technologies and Fuel Cells	3(2-1)
14	ESE-714	Energy Management in Buildings	3(2-1)
15	ESE-715	Energy Economics and Management	3(3-0)
16	ESE-716	Biofuels Engineering	3(2-1)
17	ESE-717	Nuclear Power Plant Engineering	3(3-0)
18	AET-719	Special Problems	1(1-0)
19	AET-720	Seminar	1(1-0)

Introduction:

University Institute of Management Sciences (UIMS) is a constituent institute of the Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi (PMAS AAUR), a public sector university. UIMS was established in 1996 with the inception of MBA programs and the first intake of 50 students. Over the years UIMS has revised its programs and today it is one of the most diverse Business School of the country with the current (accumulated) enrollment of about 1200 students in BBA(Hons.), Ph.D (Management Sciences), MBA & MS (1.5 Year). Thousands of the graduates of UIMS are already serving the nation and making a great impact both socially and economically.



The Institute offers undergraduate and postgraduate degree courses leading to BBA (Hons.), BS (Commerce), and MBA (1.5 Year) with specialization in Marketing, HRM, Finance, MS & Ph.D with specialization in Marketing, HRM, Finance.

Director	Dr. Nadia Tahir
Assistant Director	Dr. Muhammad Faisal Malik
	Mr. Hafiz Muhammad Hafeez
	Dr. Irfan Ullah Munir
Associate Professor	Dr. Farida Faisal
	Dr. Muhammad Razzaq Athar
Assistant Professors	Ms. Bushra Zulfiqar
	Mr. Kashif Saeed
	Mr. Shuja Ilyas
	Dr. Mazoom Akhter
	Dr. Maroof Ajmal
	Dr. Asif Zaheer

Lecturers	Ms. Sidra Shahzadi
	Ms. Afsheen Fatima
	Mr. Zia-ur-Rehman
	Ms. Sidra Akhtar
	Mr. Ammar Asghar
	Mr. Osman Zulfiqar
	Mr. Kaleem Ullah
	Mr. Aleem Akhtar
	Ms. Anum Shafique
	Dr. Zoya Khan

PROGRAMMES OFFERED

1. BBA (Hons.)

A minimum of eight semesters duration programme after Intermediate or equivalent.

ADMISSION ELIGIBILITY:

Minimum Academic Requirements:

- (i) A person (male/female) holding Intermediate Certificate, A-level or equivalent certificate from any recognized Institute with at least 50% marks shall be eligible for admission to BBA (Hons.) programme.
- (ii) Admission will be on open merit basis; based on marks obtained in last degree.

(iii) Age:

A candidate must not be more than 23 years of age on 1st October of the year of admission, provided that the Vice Chancellor may relax age limit in very exceptional cases.

ACADEMIC STANDING:

- (i) Grade Point Average:
 - a. Maximum grade point average 4.00
 - b. Minimum grade point average for obtaining the degree 2.50

To remain on the roll of the University a student shall be required to maintain the following minimum CGPA otherwise he / she shall be ceased on the University roll.

- (ii) A student who maintains the minimum GPA/CGPA for promotion and meets the requirements will be promoted to the next semester.
- (iii) A student who does not meet the above requirements may repeat the whole semester once only. The course grades that a student earns in the repeated semester shall replace the previously earned course grades.
- (iv) During the specified minimum duration for completing the degree, a student may repeat those courses of the previous semesters in which he/she had secured the grade “F”, provided the course load does not exceed the maximum limit of credit hours in a semester. Repetition of lowest grades will only be allowed in Summer Session.

Semester	CGPA
1st	0.75
2nd	1.00
3rd	1.25
4th	1.50
5th	1.75
6th	2.00
7th	2.25
8th	2.50

2. BS (Commerce)

A minimum of eight semesters duration programme after Intermediate or equivalent.

ADMISSION ELIGIBILITY:Minimum Academic Requirements:

- (i) A person (male/female) holding Intermediate Certificate, A-level or equivalent certificate from any recognized Institute with at least 50% marks shall be eligible for admission to BS(Commerce) programme.
- (ii) Admission will be on open merit basis; based on marks obtained in last degree.

(iii) Age:

A candidate must not be more than 23 years of age on 1st October of the year of admission, provided that the Vice Chancellor may relax age limit in very exceptional cases.

ACADEMIC STANDING:

- (i) Grade Point Average:
 - a. Maximum grade point average 4.00
 - b. Minimum grade point average for obtaining the degree 2.50

To remain on the roll of the University a student shall be required to maintain the following minimum CGPA otherwise he / she shall be ceased on the University roll.

- (ii) A student who maintains the minimum GPA/CGPA for promotion and meets the requirements will be promoted to the next semester.
- (iii) A student who does not meet the above requirements may repeat the whole semester once only. The course grades that a student earns in the repeated semester shall replace the previously earned course grades.
- (iv) During the specified minimum duration for completing the degree, a student may repeat those courses of the previous semesters in which he/she had secured the grade "F", provided the course load does not exceed the maximum limit of credit hours in a semester. Repetition of lowest grades will only be allowed in Summer Session.

Semester	CGPA
1st	0.75
2nd	1.00
3rd	1.25
4th	1.50
5th	1.75
6th	2.00
7th	2.25
8th	2.50

3. BBA - 2 years

Candidates having 14 years of HEC approved academic qualification in any discipline (arts or science) with a minimum CGPA of 2.5 or 50% marks will be eligible for admission in this program. 100 seats are available for admission in morning session.

Course Duration	:	Two Years (Four Semesters)
Core Courses	:	61 Credit Hours (inclusive of HEC Compulsory courses)
Specialization Courses	:	18 Credit Hours
Total	:	79 Credit Hours

4. MBA:

a. MBA (1-½ Year)

Admission Eligibility:

A candidate seeking admission to the course for the degree of Master of Business Administration in full or partial residence, must meet all the requirements for admission as per rules.

- (i) MBA (1½ Year): Must hold a BBA (Hons.) four years degree with minimum 50% or equivalent qualification in relevant subject from a recognized institution with minimum CGPA of 2.50 out of 4.00.



Academic Standing:

(i) Grade Point Average

- (a) Maximum grade point average: 4.00
- (b) Minimum grade point average for obtaining the degree 2.50

To remain on the roll of the University a student shall be required to maintain the minimum prescribed CGPA.

- (ii) During the specified minimum duration for completing the degree, a student may repeat those course of the previous semesters in which he/she had secured the grade “F”, provided the course load does not exceed the maximum limit of credit hours in a semester. Repetition of lowest grades will only be allowed in Summer Session.

CGPA/CGPA
MBA
(1-1/2 Years)
2.00
2.25
2.50

5. MS (MANAGEMENT SCIENCES)

Admission to the Course:-

MS (Management Sciences) program is offered only to the students who fulfill the following minimum eligibility criteria, minimum requirements for MS in Management Sciences Programs are as follows:

- (i) Sixteen years of schooling with the last degree in Business/Commerce or 4 year business education (minimum 130 credit hours) after HSSC/F.A./F.Sc/or equivalent degree in the relevant field will be required for admission in the MS (Management Science) Program.
- (ii) Must have passed University Entrance Test.
- (iii) The minimum CGPA should be 3.0 (out of 4.0 in the Semester System) or First Division (in the Annual System) in the last degree for admission in MS (Management Sciences).

Duration:-

The duration of the course in full residency shall not be

- a. Less than 3 semesters & more than 5 semesters for a whole time student
- b. Less than 5 semesters & more than 7 semesters for part time student

Academic Standing:-

- i) Cumulative Grade Point Average
 - (a) Maximum cumulative grade point average: 4.00
 - (b) Minimum cumulative grade point average for obtaining MS (Management Sciences) Degree: 2.50
- ii) To remain on the roll of the university a student shall be required to attain the following minimum CGPA in each semester.

Semester	CGPA/CGPA
1st	2.00
2nd	2.50
3rd	2.50

6. Ph.D (MANAGEMENT SCIENCES)

A minimum of six semesters duration program after MS (Management Sciences) degree or equivalent.

Admission to the Course:

1. Must have passed the MS degree with 1st division or with at least a CGPA of 3.00 out 4.00
2. Must have passed University Entrance Test with 70% marks.

SCHEME OF STUDIES FOR BBA (HONS.) 4-YEARS PROGRAMME

I SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	AGRO-301	Basic Agriculture	3(2-2)
2	SSH-302	Pakistan Studies	2(2-0)
3	MGT-304	Social Psychology and Self Development	3(3-0)
4	MGT-321	Fundamentals of Accounting	3(3-0)
5	MGT-341	IT in Business-I	3(3-0)
6	MGT-391	Business Mathematics	3(3-0)
7	MGT-404	Business Communication-I	3(3-0)

II SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	IS-302	Islamic Studies/Ethics*	2(2-0)
2	MGT-322	Financial Accounting	3(3-0)
3	MGT-342	IT in Business-II	3(3-0)
4	MGT-351	Introduction to Marketing	3(3-0)
5	MGT-371	Micro Economics	3(3-0)
6	MGT-411	Introduction to Management	3(3-0)
7	SOS-301	Moral Foundations of Education	2(2-0)

* **Note:** Muslim Students will enroll Islamic Studies and non-Muslim will enroll ethics.

III SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	MGT-405	Business Communication-II	3(3-0)
2	MGT-423	Cost Accounting	3(3-0)
3	MGT-452	Introduction to Marketing Management	3(3-0)
4	MGT-472	Macro Economics	3(3-0)
5	MGT-492	Business Statistics	3(3-0)
6	MGT-512	Introduction to Organizational Behaviour	3(3-0)

IV SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	MGT-407	Ethics in Business	3(3-0)
2	MGT-424	Introduction to Business Finance	3(3-0)
3	MGT-473	Introduction to Managerial Economics	3(3-0)
4	MGT-504	Managerial Accounting	3(3-0)
5	MGT-515	Introduction to Human Resource Management	3(3-0)
6	MGT-594	Introduction to Logic	3(3-0)

V SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	MGT-513	Corporate Law	3(3-0)
2	MGT-514	Introduction to Project Management	3(3-0)
3	MGT-525	Introduction to Financial Management	3(3-0)
4	MGT-526	Money and Banking	3(3-0)
5	MGT-580	Strategic Management	3(3-0)
6	MGT-595	Statistical Inference	3(3-0)

VI SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	MGT-493	Business Research Methods	3(3-0)
2	MGT-543	Introduction to Management Information System	3(3-0)
3	MGT-574	International Business	3(3-0)
4	MGT-696	Introduction to Production Operations Management	3(3-0)
5		Elective-I	3(3-0)
6		Elective-II	3(3-0)

VII SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	MGT-616	Total Quality Management	3(3-0)
2	MGT-644	Introduction to E-Commerce	3(3-0)
3	MGT-698	Internship	3(0-6)
4		Elective-III	3(3-0)
5		Elective-IV	3(3-0)

VIII SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	MGT-617	Entrepreneurship	3(3-0)
2	MGT-618	Contemporary issues in Management	3(3-0)
3	MGT-699	Project	3(0-6)
4		Elective-V	3(3-0)
5		Elective-VI	3(3-0)



ELECTIVE COURSES FOR THE SPECIALIZATIONS OFFERED IN BBA (Hons.)

MARKETING

S.No.	Course No.	Course Title	Credit Hours
1	MGT-560	Consumer Behavior	3(3-0)
2	MGT-561	Advertising and Promotion	3(3-0)
3	MGT-562	Sales Management	3(3-0)
4	MGT-663	Services Marketing	3(3-0)
5	MGT-664	Product and Brand Management	3(3-0)
6	MGT-665	Global Marketing	3(3-0)
7	MGT-666	Marketing Research	3(3-0)
8	MGT-667	Marketing Channels	3(3-0)
9	MGT-668	Strategic Marketing Planning	3(3-0)
10	MGT-669	Seminar in Marketing	3(3-0)



FINANCE

S.No.	Course No.	Course Title	Credit Hours
1	MGT-530	Investment Banking	3(3-0)
2	MGT-531	Analysis of Financial Statements	3(3-0)
3	MGT-631	Securities Analysis and Portfolio Management	3(3-0)
4	MGT-632	Investment and Security Analysis	3(3-0)
5	MGT-633	Corporate Finance	3(3-0)
6	MGT-634	Credit Management	3(3-0)
7	MGT-635	Islamic Banking	3(3-0)
8	MGT-636	Portfolio Management	3(3-0)
9	MGT-637	Financial Institutions	3(3-0)
10	MGT-638	International Finance	3(3-0)
11	MGT-639	Money and Capital Markets	3(3-0)

HUMAN RESOURCE MANAGEMENT

S.No.	Course No.	Course Title	Credit Hours
1	MGT-581	Leadership	3(3-0)
2	MGT-582	Organizational Development	3(3-0)
3	MGT-683	Human Resource Development	3(3-0)
4	MGT-684	Learning and Management Development	3(3-0)
5	MGT-685	Collective Bargaining and Wage Policy	3(3-0)
6	MGT-686	International Human Resource Management	3(3-0)
7	MGT-687	Strategic Human Resource Management	3(3-0)
8	MGT-688	Seminars in Human Resource Management	3(3-0)

SCHEME OF STUDIES FOR BS (COMMERCE) 4-YEARS PROGRAMME

I SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	IS-302	Islamic Studies/Ethics	2(2-0)
2	ENG-301	Functional English	3(3-0)
3	MGT-310	Introduction to Business	3(3-0)
4	MGT-321	Principles of Accounting	3(3-0)
5	MGT-371	Micro Economics	3(3-0)
6	MGT-391	Business Mathematics	3(3-0)
7	MGT-304	Social Psychology & Self Development	3(3-0)

II SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	SSH-302	Pakistan Studies	2(2-0)
2	MGT-404	Business Communication-I	3(3-0)
3	MGT-341	IT in Business - I	3(3-0)
4	MGT-322	Financial Accounting	3(3-0)
5	MGT-472	Macro Economics	3(3-0)
6	MGT-492	Business Statistics	3(3-0)

III SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	MGT-423	Cost Accounting	3(3-0)
2	MGT-405	Business Communication-II	3(3-0)
3	MGT-424	Introduction to Business Finance	3(3-0)
4	MGT-427	Advanced Accounting-I	3(3-0)
5	MGT-351	Introduction to Marketing	3(3-0)
6	MGT-411	Introduction to Management	3(3-0)

IV SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	MGT-426	Corporate Laws and secretarial practices	3(3-0)
2	MGT-428	Advanced Accounting-II	3(3-0)
3	MGT-512	Introduction to Organizational Behavior	3(3-0)
4	MGT-595	Statistical Inferences	3(3-0)
5	MGT-526	Money & Banking	3(3-0)
6	MGT-429	Economic Issues of Pakistan	3(3-0)

V SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	MGT-504	Managerial Accounting	3(3-0)
2	MGT-515	Introduction to HRM	3(3-0)
3	MGT-525	Financial Management	3(3-0)
4	MGT-502	Principles of Auditing	3(3-0)
5	MGT-452	Marketing Management	3(3-0)
6	MGT-407	Ethics in Business	3(3-0)

VI SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	MGT-594	Introduction to Logic	3(3-0)
2	MGT-602	Business Taxation	3(3-0)
3	MGT-580	Strategic Management	3(3-0)
4	MGT-527	E Accounting	3(3-0)
5	MGT-617	Entrepreneurship	3(3-0)
6	MGT-493	Business Research Methods	3(3-0)

VII SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	MGT-574	International Business	3(3-0)
2	MGT-698	Internship	3(0-6)
3		Elective-I	3(3-0)
4		Elective-II	3(3-0)
5		Elective-III	3(3-0)

VIII SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	MGT-600	Corporate Governance	3(3-0)
2	MGT-699	Research Project and Viva Voce	3(0-6)
3		Elective-IV	3(3-0)
4		Elective-V	3(3-0)
5		Elective-VI	3(3-0)



ELECTIVE COURSES FOR THE SPECIALIZATIONS OFFERED IN BS(COMMERCE)

ACCOUNTING

S.No.	Course No.	Course Title	Credit Hours
1	MGT-603	Corporate Reporting	3(3-0)
2	MGT-604	Public Sector Accounting	3(3-0)
3	MGT-605	Accounting for Associations Not-for-profit	3(3-0)
4	MGT-606	Accounting Information Systems	3(3-0)
5	MGT-607	Analysis of Financial Statements	3(3-0)
6	MGT-608	International Accounting and Accounting for MNCs	3(3-0)

AUDITING

S.No.	Course No.	Course Title	Credit Hours
1	MGT-620	Auditing and Assurance	3(3-0)
2	MGT-621	Forensic and Investigation Auditing	3(3-0)
3	MGT-622	Internal Control System, Information Systems and Compliance	3(3-0)
4	MGT-623	Performance Audit and Evaluation	3(3-0)

FINANCE

S.No.	Course No.	Course Title	Credit Hours
1	MGT-632	Investment & Security Analysis	3(3-0)
2	MGT-633	Corporate Finance	3(3-0)
3	MGT-634	Credit Management	3(3-0)
4	MGT-635	Islamic Banking	3(3-0)
5	MGT-637	Financial Institutions	3(3-0)
6	MGT-638	International Finance	3(3-0)
7	MGT-639	Money & Capital Markets	3(3-0)

BANKING

S.No.	Course No.	Course Title	Credit Hours
1	MGT-609	Banking Laws and Practices	3(3-0)
2	MGT-610	Dynamics of Consumer Banking	3(3-0)
3	MGT-611	Marketing for Financial Services	3(3-0)
4	MGT-612	Commercial and Investment Banking	3(3-0)
5	MGT-614	Management of Banking Operations	3(3-0)
6	MGT-615	Central Banking and Global Banking	3(3-0)
7	MGT-619	Marketing for Financial Services	3(3-0)

TAXATION

S.No.	Course No.	Course Title	Credit Hours
1	MGT-624	Corporate Taxation	3(3-0)
2	MGT-625	Sales Tax, Excise Duty and Customs	3(3-0)
3	MGT-626	Local and Provincial Laws	3(3-0)
4	MGT-627	Global Taxation	3(3-0)

Courses of Study for BBA - 2 years Program

S.No.	Course No.	Course Title	Credit Hours
1	IS-302	Islamic Studies	2(2-0)
2	MGT-391	Business Mathematics	3(3-0)
3	MGT-404	Business Communication-I	3(3-0)
4	MGT-321	Fundamentals of Accounting	3(3-0)
5	MGT-411	Principles of Marketing	3(3-0)
6	MGT-341	Introduction to Computers	3(3-0)
7	MGT-351	Principles of Management	3(3-0)
8	SSH-302	Pakistan Studies	2(2-0)
9	MGT-424	Introduction to Business Finance	3(3-0)
10	MGT-371	Micro Economics	3(3-0)
11	MGT-322	Financial Accounting	3(3-0)
12	MGT-452	Marketing Management	3(3-0)
13	MGT-405	Business Communication-II	3(3-0)
14	MGT-412	Introduction to Organizational Behavior	3(3-0)
15	MGT-525	Introduction to Financial Management	3(3-0)
16	MGT-492	Business Statistics	3(3-0)
17	MGT-515	Introduction to Human Resource Management	3(3-0)
18	MGT-615	Business Research Methods	3(3-0)
19	MGT-513	Corporate Law	3(3-0)
20	MGT-514	Introduction to Project Management	3(3-0)
21	MGT-699	Project/ Elective VII	3(0-6)
22	MGT-698	Internship	NC

S.No.	Course No.	Course Title	Credit Hours
1	Specialization 1	(HRM / MKT / FIN)	3
2	Specialization 2	(HRM / MKT / FIN)	3
3	Specialization 3	(HRM / MKT / FIN)	3
4	Specialization 4	(HRM / MKT / FIN)	3
5	Specialization 5	(HRM / MKT / FIN)	3
6	Specialization 6	(HRM / MKT / FIN)	3

Courses of Study for MBA (1-1/2-Year) Programme

SEMESTER I

S.No.	Course No.	Course Title	Credit Hours
1	MGT-755	Supply Chain Management	3(3-0)
2	MGT-756	Data Analysis and Decision Making	3(3-0)
3		Elective-I	
4		Elective-II	

SEMESTER II

S.No.	Course No.	Course Title	Credit Hours
1	MGT-757	Project Management	3(3-0)
2	MGT-758	Managing Groups and Teams	3(3-0)
3		Elective-III	
4		Elective-IV	

SEMESTER III

S.No.	Course No.	Course Title	Credit Hours
1		Elective-V	3(3-0)
2	MGT-798	Project	6(0-12)

ELECTIVE COURSES for the Specializations offered in MBA (1-1/2-Year)

1

FINANCE

S.No.	Course No.	Course Title	Credit Hours
1	FIN-701	International Business Finance	3(3-0)
2	FIN-702	Advanced Corporate Finance	3(3-0)
3	FIN-703	Commercial & Investment Banking	3(3-0)
4	FIN-705	Applied Portfolio Management and Security Analysis	3(3-0)
5	FIN-709	Contemporary Islamic Banking	3(3-0)
6	FIN-710	Economic Analysis & Policies	3(3-0)
7	FIN-704	Taxation	3(3-0)
8	FIN-706	Monetary Theory and Policy	3(3-0)
9	FIN-707	Financial Modeling and Risk Analysis	3(3-0)
10	FIN-708	Financial Derivatives	3(3-0)
11	FIN-711	Behavioral Finance	3(3-0)
12	FIN-712	Financial Risk Management	3(3-0)

2

MARKETING

S.No.	Course No.	Course Title	Credit Hours
1	MKT-701	Research Techniques in Marketing	3(3-0)
2	MKT-702	Promotion and Advertising	3(3-0)
3	MKT-703	Marketing Strategy and Policy	3(3-0)
4	MKT-704	Research Seminar in Marketing	3(3-0)
5	MKT-705	Marketing Channel Management	3(3-0)
6	MKT-706	Personal Selling and Sales Management	3(3-0)
7	MKT-707	Contemporary Issues in Marketing	3(3-0)
8	MKT-708	Customer Relation Management	3(3-0)
9	MKT-709	E-Marketing	3(3-0)
10	MKT-710	Social Marketing	3(3-0)
11	MKT-711	Strategic Brand Management	3(3-0)
12	MKT-712	Services Marketing Management	3(3-0)

3

HUMAN RESOURCE MANAGEMENT

S.No.	Course No.	Course Title	Credit Hours
1	HRM-701	Recruitment and Selection	3(3-0)
2	HRM-702	Leadership and Team Development	3(3-0)
3	HRM-703	Organizational Development and Change	3(3-0)
4	HRM-704	Human Resource and Career Development	3(3-0)
5	HRM-705	Training and Management Development	3(3-0)
6	HRM-706	Labor Relation and Wage Policy	3(3-0)
7	HRM-707	Global Human Resource Management	3(3-0)
8	HRM-708	Strategic Human Resource Management and Policy	3(3-0)
9	HRM-709	Research Seminar in Human Resource Management	3(3-0)
10	HRM-710	Compensation Management	3(3-0)
11	HRM-711	Performance Management	3(3-0)
12	HRM-712	Conflict and Negotiation Management	3(3-0)
13	HRM-713	Change Management and Human Resources	3(3-0)
14	HRM-714	Training and Development	3(3-0)

SCHEME OF STUDIES FOR MS (MANAGEMENT SCIENCES) 1-1/2 years

SEMESTER I

S.No.	Course No.	Course Title	Credit Hours
1	MGT-750	Business Research Methodology	3(3-0)
2	MGT-751	Management, Organizational Policy and Practices	3(3-0)
3		Elective-I	3(3-0)
4		Elective-II	3(3-0)

SEMESTER II

S.No.	Course No.	Course Title	Credit Hours
1	MGT-752	Advanced Analytical Techniques	3(3-0)
2	MGT-753	Trends in Global Business	3(3-0)
3		Elective-III	3(3-0)
4		Elective-IV	3(3-0)

SEMESTER III

S.No.	Course No.	Course Title	Credit Hours
1	MGT-799	Research Thesis	10(0-20)



ELECTIVE COURSES FOR THE SPECIALIZATIONS OFFERED IN MS(MANAGEMENT SCIENCES)

1

MARKETING

S. No.	Course No.	Course Title	Credit Hours
1	MKT-701	Research Techniques in Marketing	3(3-0)
2	MKT-703	Marketing Strategy and Policy	3(3-0)
3	MKT-707	Contemporary Issues in Marketing	3(3-0)
4	MKT-711	Theories and Practices in Marketing	3(3-0)
5	MKT-712	Business to Business Marketing	3(3-0)
6	MKT-713	Integrated Marketing Communications	3(3-0)
7	MKT-714	Relationship Marketing, Theory and Practice	3(3-0)

2

FINANCE

S.No.	Course No.	Course Title	Credit Hours
1	FIN-706	Monetary Theory and Policy	3(3-0)
2	FIN-707	Financial Modeling and Risk Analysis	3(3-0)
3	FIN-708	Financial Derivatives	3(3-0)
4	FIN-709	Islamic Banking	3(3-0)
5	FIN-710	Economics Analysis and Policies	3(3-0)
6	FIN-711	Behavioral Finance	3(3-0)
7	FIN-712	Financial Risk Management	3(3-0)
8	FIN-713	Advanced Corporate Finance	3(3-0)
9	FIN-714	Contemporary Issues in Finance	3(3-0)
10	FIN-715	Stock Market Efficiency	3(3-0)
11	FIN-716	Advances in International Finance	3(3-0)
12	FIN-721	Research Paradigms in Finance	3(3-0)
13	FIN-722	Financial Intermediation	3(3-0)



UNIVERSITY
INSTITUTE
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ANAGEMENT
SCIENCES

3

HUMAN RESOURCE MANAGEMENT

S. No.	Course No.	Course Title	Credit Hours
1	HRM-705	Learning & Management Development	3(3-0)
2	HRM-708	Strategic Human Resource Management	3(3-0)
3	HRM-711	Performance Management	3(3-0)
4	HRM-713	Change Management and Human Resources	3(3-0)
5	HRM-715	Contemporary Issues in Human Resources Management	3(3-0)
6	HRM-716	Research Issues in Human Resources	3(3-0)
7	HRM-717	Cross-Cultural Management	3(3-0)
8	HRM-718	Career Management	3(3-0)
9	HRM-719	Industrial Psychology	3(3-0)

SCHEME OF STUDIES FOR Ph.D (MANAGEMENT SCIENCES)

CORE COURSES

S.No.	Course No.	Course Title	Credit Hours
1	MGT-771	Management Thoughts and Philosophy	3(3-0)
2	MGT-772	Advanced Research Techniques	3(3-0)
3	MGT-773	Special Topics in Management Sciences	3(3-0)
4	MGT-799	Research Thesis	50(0-100)

2

FINANCE

S.No.	Course No.	Course Title	Credit Hours
1	FIN-706	Monetary Theory and Policy	3(3-0)
2	FIN-707	Financial Modeling and Risk Analysis	3(3-0)
3	FIN-708	Financial Derivatives	3(3-0)
4	FIN-709	Islamic Banking	3(3-0)
5	FIN-710	Economics Analysis and Policies	3(3-0)
6	FIN-711	Behavioral Finance	3(3-0)
7	FIN-712	Financial Risk Management	3(3-0)
8	FIN-713	Advanced Corporate Finance	3(3-0)
9	FIN-714	Contemporary Issues in Finance	3(3-0)
10	FIN-715	Stock Market Efficiency	3(3-0)
11	FIN-716	Advances in International Finance	3(3-0)
12	FIN-721	Research Paradigms in Finance	3(3-0)
13	FIN-722	Financial Intermediation	3(3-0)

ELECTIVE COURSES FOR THE SPECIALIZATIONS OFFERED IN Ph.D (MANAGEMENT SCIENCES)

1

MARKETING

S. No.	Course No.	Course Title	Credit Hours
1	MKT-701	Research Techniques in Marketing	3(3-0)
2	MKT-703	Marketing Strategy and Policy	3(3-0)
3	MKT-707	Contemporary Issues in Marketing	3(3-0)
4	MKT-711	Theories and Practices in Marketing	3(3-0)
5	MKT-712	Business to Business Marketing	3(3-0)
6	MKT-713	Integrated Marketing Communications	3(3-0)
7	MKT-714	Relationship Marketing, Theory and Practice	3(3-0)

3

HUMAN RESOURCE MANAGEMENT

S. No.	Course No.	Course Title	Credit Hours
1	HRM-705	Learning & Management Development	3(3-0)
2	HRM-708	Strategic Human Resource Management	3(3-0)
3	HRM-711	Performance Management	3(3-0)
4	HRM-713	Change Management and Human Resources	3(3-0)
5	HRM-715	Contemporary Issues in Human Resources Management	3(3-0)
6	HRM-716	Research Issues in Human Resources	3(3-0)
7	HRM-717	Cross-Cultural Management	3(3-0)
8	HRM-718	Career Management	3(3-0)
9	HRM-719	Industrial Psychology	3(3-0)

Keeping in view the importance of Computer Science & Information Technology the University has established University Institute of Information Technology (UIIT).

UIIT is offering BS (CS) with specialization in General Computing and Artificial Intelligence , BS (Software Engineering) and Ph.D (Computer Science).

Administrator Dr. Yaser Hafeez
Deputy Director Mr. Ghulam Mustafa
Assistant Director Mr. Muhammad Azhar Manzoor

Associate Professor Dr. Yaser Hafeez

Assistant Professors Dr. Saleem Iqbal
Dr. Saud Altaf
Dr. Syed Mushhad Mustazhar Gilani
Dr. Muhammad Azeem Abbas
Dr. Muhammad Aqib
Mr. Nasir Mehmood Minhas
Ms. Rubina Ghazal
Dr. Saif ur Rehman
Mr. Saqib Majeed

Lecturers Dr. Kashif Sattar
Dr. Asif Nawaz
Dr. Tariq Ali
Ms. Irum Rubab
Ms. Bushra Hamid
Ms. Farkhanda Qamar
Ms. Sidra Tahir
Ms. Sarfraz Bibi
Ms. Noureen Zafar
Ms. Marya Iqbal



DEGREES OFFERED

BS (CS) Specialized in General Computing / Artificial Intelligence

A minimum of eight semesters duration programme after Intermediate (HSSC) in Pre-Engineering/Pre-Medical/ICS or equivalent qualification certified by IBCC.

Admission and Registration:-

- (i) A person holding Intermediate(HSSC) examination certificate in Pre-Engineering/Pre-Medical/ICS equivalent qualification certified by IBCC with at least 50% marks shall be eligible to apply for admission.

Note:- Those students who have Pre-Medical background, must pass deficiency courses of Mathematics of 6 credit hours within one year of their regular studies. The deficiency courses must be pass/fail bases and should not count in CGPA of the student.

- (ii) Admission will be on open merit basis.
- (iii) Students with Computer Science background will be given preference.
- (iv) Age limit 23 years.

Academic Standing:-

- (i) Grade Point Average
 - (a) Maximum grade point average 4.00
 - (b) Minimum grade point average for obtaining the Degree 2.50
- (ii) To remain on the roll of the university a student shall be required to maintain the following minimum CGPA in each semester:
- (iii) A student who does not meet the above requirement for promotion shall cease to be on the university roll.
However, he/she may repeat the whole semester only once.
- (iv) The course grades that a student earns in the repeated Semester shall replace the previously earned course grades.
- (v) In the 8th semester, if a student fails to achieve the 2.5 CGPA, he /she shall have to repeat the course/ courses with lowest grades, so as to make CGPA of 2.5 within the maximum time period allowed for the degree.

Semester	CGPA
1st	0.75
2nd	1.00
3rd	1.25
4th	1.50
5th	1.75
6th	2.00
7th	2.25
8th	2.50

BS (SE)

A minimum of eight semesters duration programme after Intermediate (HSSC) in Pre-Engineering/Pre-Medical/ICS or equivalent qualification certified by IBCC.

Admission and Registration:-

- (i) A person holding Intermediate(HSSC) examination certificate in Pre-Engineering/Pre-Medical/ICS equivalent qualification certified by IBCC with at least 50% marks shall be eligible to apply for admission.

Note:- Those students who have Pre-Medical background, must pass deficiency courses of Mathematics of 6 credit hours within one year of their regular studies. The deficiency courses must be pass/fail bases and should not count in CGPA of the student.

- (ii) Admission will be on open merit basis.
 (iii) Students with Computer Science background will be given preference.
 (iv) Age limit 23 years.

Academic Standing:-

- (i) Grade Point Average
- | | |
|--|------|
| (a) Maximum grade point average | 4.00 |
| (b) Minimum grade point average for obtaining the Degree | 2.50 |
- (ii) To remain on the roll of the university a student shall be required to maintain the following minimum CGPA in each semester:
- (iii) A student who does not meet the above requirement for promotion shall cease to be on the university roll. However, he/she may repeat the whole semester only once.
- (iv) The course grades that a student earns in the repeated Semester shall replace the previously earned course grades.
- (v) In the 8th semester, if a student fails to achieve the 2.5 CGPA, he /she shall have to repeat the course/ courses with lowest grades, so as to make CGPA of 2.5 within the maximum time period allowed for the degree.

Semester	CGPA
1st	0.75
2nd	1.00
3rd	1.25
4th	1.50
5th	1.75
6th	2.00
7th	2.25
8th	2.50

MS(CS)

A minimum of four semesters duration program after BS(CS)/BS(SE)/BS(IT)/MCS/MIT degree or equivalent.

Admission to the Course:

1. Must have passed the BS(CS)/BS(SE)/BS(IT)/MCS/MIT with at least 50% marks or CGPA of 2.50 out of 4.00.
2. Must have passed University Entrance Test.
3. Admission will be on open merit basis.

Academic Standing:-

- i. Grade Point Average
 - a. Maximum grade point average: 4.00
 - b. Minimum grade point average for obtaining the degree: 2.50
- ii. To remain on roll of the University a student shall be required to maintain the following minimum CGPA in each semester.

Ph.D (Computer Science)

A candidate must have passed the MS/M.Phil(CS/IT/SE) degree with first division or CGPA of 3.00 on a scale of 4.00 or overall 60% marks in annual system or equivalent in the relevant subject is a prerequisite from any recognized University. In case of foreign degree, it will be ascertained that it is equivalent to Pakistani M.Phil/MS degree from any recognized University/ Institution.

Semester	CGPA
1st	1.50
2nd	1.75
3rd	2.00
4th	2.50

The applications of the candidates must be accompanied with a comprehensive proposal that he/she may intend to undertake.

A candidate must have passed University Entrance Test with minimum of 70% marks.

A serving candidate will have to submit an NOC from their respective departments with the application form. Furthermore, he/she will provide a letter of intent from employer for study leave from the start of admission date.

SCHEME OF STUDIES FOR BS (CS) specialized in General Computing

Courses Common to all Computing Bachelor Programs - 82 Credits

<u>Code</u>	<u>Pre-Req</u>	<u>Computing - Core Courses</u> <u>Course Title</u>	<u>Credit Hours</u>	<u>Course Group</u>	<u>Credit Hours</u>
CS-323		Programming Fundamentals	4(3-3)	Computing Core	39
CS-423	CS-323	Object Oriented Programming	4(3-3)	General Education	19
CS-443	CS-323	Data Structures & Algorithms	4(3-3)	University Electives	12
CS-335		Discrete Structures	3(3-0)	Mathematics & Science Foundation	12
CS-583		Operating System	4(3-3)	Common Courses	82
CS-400		Database Systems	4(3-3)	Domain Computer Science (CS)	
CS-453		Software Engineering	3(3-0)	Domain CS Core	24
CS-577		Computer Networks	4(3-3)	Domain CS Supporting	09
CS-497		Information Security	3(3-0)	Domain CS Electives	15
CS-698		Final Year Project-I	2(0-04)	Domain CS Courses	48
CS-699	CS-698	Final Year Project-II	4(0-08)	TOTAL	130
General Education Courses					
CS-300		Introduction to Information & Communication Technologies	3(2-3)		
ENG-305		English Comprehension	3(3-0)		
ENG-315		Technical & Business Writing	3(3-0)		
ENG-325		Communication & Presentation Skills	3(3-0)		
SSH-307		Professional Practices	3(3-0)		
SSH-302		Pakistan Studies	2(2-0)		
IS-302		Islamic Studies/ Ethics	2(2-0)		
University Elective Courses					
MGT-322		Financial Accounting	3(3-0)		
MGT-351		Introduction to Marketing	3(3-0)		
MGT-411		Introduction to Management	3(3-0)		
MGT-515		Introduction to Human Resource Management	3(3-0)		
ECON-301		Introduction to Economics	3(3-0)		
SSH-305		Foreign Languages	3(3-0)		
PSY-600		Psychology	3(3-0)		
SSH-304		International Relations	3(3-0)		
SSH-308		Personal Grooming & Character Development	2(2-0)		
SSH-309		Social Service	1(1-0)		
AGRO-301		Basic Agriculture	3(2-3)		
RSG-410		Introduction GIS & Spatial Analysis of Agriculture	3(2-3)		

Mathematics and Science Foundation Courses

MTH-310	Calculus & Analytical Geometry	3(3-0)
MTH-435	Linear Algebra	3(3-0)
STT-500	Statistics & Probability	3(3-0)
ELE-401	Basic Electronics	3(2-2)

Domain Courses for BSCS

Computer Science - Core (Compulsory) Courses

<u>Code</u>	<u>Pre-Req</u>	<u>Course Title</u>	<u>Credit Hours</u>
CS-430		Digital Logic Design	4(3-3)
CS-530	CS-430	Computer Organization & Assembly Language	4(3-3)
CS-536	CS-335	Theory of Automata & Formal Languages	3(3-0)
CS-542	CS-443	Analysis of Algorithms	3(3-0)
CS-632		Artificial Intelligence	4(3-3)
CS-636	CS-536	Compiler Construction	3(2-3)
CS-687		Parallel & Distributed Computing	3(2-3)

Computing Science - Supporting Courses

MTH-315	MTH-310	Multivariable Calculus	3(3-0)
MTH-415	MTH-315	Differential Equations	3(3-0)
CS-572	MTH-310	Numerical Analysis	3(2-3)

CS Elective Courses

CS-432	CS-423	Modern Programming Languages	3(2-3)
CS-532		Computer Architecture	3(3-0)
CS-553	CS-453	Object Oriented Analysis & Design	3(2-3)
CS-566		Web Technologies	3(2-3)
CS-575	CS-323	Computer Graphics	3(2-3)
CS-597		Cyber Security	3(3-0)
CS-601	CS-400	Data Base Administration & Management	4(3-3)
CS-666	CS-566	Web Engineering	3(2-3)
CS-685		Human Computer Interaction	3(2-3)
CS-682		System Programming	3(2-3)
CS-692	CS-423	Visual Programming	3(2-3)
CS-693		Mobile Application Development	3(2-3)
CS-695	CS-423	Theory of Programming Language	3(2-3)

SCHEME OF STUDIES FOR BS (CS) Specialized in General Computing

I SEMESTER

S.No.	Course No.	Pre-Req	Course Title	Credit Hours
1	CS-300	-	Introduction to Information & Communication Technologies	3(2-3)
2	CS-323	-	Programming Fundamentals	4(3-3)
3	ENG-305	-	English Comprehension	3(3-0)
4	MTH-310	-	Calculus & Analytical Geometry	3(3-0)
5	ELE-401	-	Basic Electronics	3(2-3)
6	IS-302	-	Islamic Studies/ Ethics	2(2-0)

II SEMESTER

S.No.	Course No.	Pre-Req	Course Title	Credit Hours
1	CS-423	CS-323	Object Oriented Programming	4(3-3)
2	ENG-325	-	Communication & Presentation Skills	3(3-0)
3	CS-430	-	Digital Logic Design	4(3-3)
4	STT-500	-	Statistics & Probability	3(3-0)
5		-	University Elective -1	-
6		-	CS Supporting 1	-

III SEMESTER

S.No.	Course No.	Pre-Req	Course Title	Credit Hours
1	CS-443	CS-323	Data Structures & Algorithms	4(3-3)
2	CS-335	-	Discrete Structures	3(3-0)
3	SSH-307	-	Professional Practices	3(3-0)
4	CS-530	CS-430	Computer Organization & Assembly Language	4(3-3)
5		-	University Elective -2	-
6		-	CS Supporting 2	-

IV SEMESTER

S.No.	Course No.	Pre-Req	Course Title	Credit Hours
1	CS-400		Database Systems	4(3-3)
2	MTH-435		Linear Algebra	3(3-0)
3	CS-542	CS-443	Analysis of Algorithms	3(3-0)
4	CS-536	CS-335	Theory of Automata & Formal Languages	3(3-0)
5	CS-583		Operating Systems	4(3-3)
6			CS-Elective -1	

V SEMESTER

S.No.	Course No.	Pre-Req	Course Title	Credit Hours
1	ENG-315		Technical & Business Writing	3(3-0)
2	CS-453		Software Engineering	3(3-0)
3	CS-636	CS-536	Compiler Construction	3(2-3)
4			CS-Elective -2	
5			University Elective -3	
6			CS Supporting 3	

VI SEMESTER

S.No.	Course No.	Pre-Req	Course Title	Credit Hours
1	CS-577		Computer Networks	4(3-3)
2	CS-632		Artificial Intelligence	4(3-3)
3	SSH-302		Pakistan Studies	2(2-0)
4			CS Elective 3	
5			CS Elective 4	
6			University Elective -4	

VII SEMESTER

S.No.	Course No.	Pre-Req	Course Title	Credit Hours
1	CS-698		Final Year Project-I	2(0-04)
2	CS-687		Parallel & Distributed Computing	3(2-3)
3			CS Elective 5	

VIII SEMESTER

S.No.	Course No.	Pre-Req	Course Title	Credit Hours
1	CS-497		Information Security	3(3-0)
2	CS-699	CS-698	Final Year Project - II	4(0-08)

SCHEME OF STUDIES FOR BS (CS) specialized in Artificial Intelligence

<u>Code</u>	<u>Pre-Req</u>	<u>Computing - Core Courses</u> <u>Course Title</u>	<u>Credit Hours</u>	<u>Course Group</u>	<u>Credit Hours</u>	<u>Min No of Courses</u>
CS-323		Programming Fundamentals	4(3-3)	General Education	19	7
CS-423	CS-323	Object Oriented Programming	4(3-3)	University Electives	12	4
CS-443	CS-323	Data Structures & Algorithms	4(3-3)	Mathematics & Science Foundation	12	4
CS-335		Discrete Structures	3(3-0)	Computing Core	39	11
CS-583		Operating System	4(3-3)	AI Core (Domain Core)	18	5
CS-400		Database Systems	4(3-3)	AI Electives	18	6
CS-453		Software Engineering	3(3-0)	(Domain Electives)	12	4
CS-577		Computer Networks	4(3-3)	Total	130	41
CS-497		Information Security	3(3-0)			
CS-698		Final Year Project-I	2(0-04)			
CS-699	CS-698	Final Year Project-II	4(0-08)			
General Education Courses						
CS-300		Introduction to Information & Communication Technologies	3(2-3)			
ENG-305		English Composition & Comprehension	3(3-0)			
ENG-315		Technical & Business Writing	3(3-0)			
ENG-325		Communication & Presentation Skills	3(3-0)			
SSH-307		Professional Practices	3(3-0)			
SSH-302		Pakistan Studies	2(2-0)			
IS-302		Islamic Studies/ Ethics	2(2-0)			
University Elective Courses						
MGT-322		Financial Accounting	3(3-0)			
MGT-351		Introduction to Marketing	3(3-0)			
MGT-411		Introduction to Management	3(3-0)			
MGT-515		Introduction to Human Resource Management	3(3-0)			
ECON-301		Introduction to Economics	3(3-0)			
SSH-305		Foreign Languages	2(2-0)			
PSY-600		Psychology	3(3-0)			
SSH-304		International Relations	3(3-0)			
SSH-308		Personal Grooming & Character Development	2(2-0)			
SSH-309		Social Service	1(1-0)			

Mathematics and Science Foundation Courses

MTH-310		Calculus & Analytical Geometry	3(3-0)
MTH-435		Linear Algebra	3(3-0)
STT-500		Statistics & Probability	3(3-0)
MTH-415		Differential Equations	3(2-3)

Computer Science - Core (Compulsory) Courses

CS-430		Digital Logic Design	4(3-3)
CS-530	CS-430	Computer Organization & Assembly Language	4(3-3)
CS-542	CS-443	Analysis of Algorithms	3(3-0)
CS-632		Artificial Intelligence	4(3-3)
CS-687		Parallel & Distributed Computing	3(2-3)

Artificial Intelligence Core Courses

AI-401	CS-632	Programming for Artificial Intelligence	3(2-3)
AI-402	AI-401	Machine Learning	3(2-3)
AI-503	AI-401	Artificial Neural Networks	3(2-3)
AI-504	AI-401	Knowledge Representative & Reasoning	3(3-0)
AI-505	AI-503	Computing Vision	3(2-3)
AI-506	AI-503	Natural Language Processing	3(3-0)

Artificial Intelligence Elective Courses

STT-502		Advance Statistics	3(3-0)
CS-536	CS-335	Theory of Automata & Formal Languages	3(3-0)
AI-403		Data Mining	3(2-3)
AI-404	AI-402	Deep Learning	3(3-0)
AI-501		Speech Processing	3(3-0)
AI-502		Reinforcements Learning	3(3-0)
AI-507		Fuzzy Systems	3(3-0)
AI-508		Evolutionary Computing	3(3-0)
AI-509		Swarm Intelligence	3(3-0)
AI-510		Agent Based Modeling	3(3-0)
AI-511		Knowledge Based Systems	3(3-0)

SCHEME OF STUDIES FOR BS (CS) specialized in Artificial Intelligence

Semester-I

Course Title	Credit Hours	Cont hr	Pre-requisite
Introduction to ICT	3(2-3)	2-3	-
Programming Fundamentals	4(3-3)	3-3	-
Discrete Structures	3(3-0)	3-0	-
Calculus & Analytical Geometry	3(3-0)	3-0	-
English Composition & Comprehension	3(3-0)	3-0	-

Semester-II

Course Title	Credit Hours	Cont hr	Pre-requisite
Object Oriented Programming	4(3-3)	3-3	Prog. Fundamentals
Database Systems	4(3-3)	3-3	-
Linear Algebra	3(3-0)	3-0	Cal. & Anal. Geometry
Probability & Statistics	3(3-0)	3-0	-
Communication & Presentation Skills	3(3-0)	3-0	English Comp & Compre

Semester-III

Course Title	Credit Hours	Cont hr	Pre-requisite
Data Structures & Algorithms	4(3-3)	3-3	Prog. Fundamentals
Information Security	3(3-0)	3-0	-
Artificial Intelligence	4(3-3)	3-3	Object Oriented Prog
Digital Logic Design	4(3-3)	3-3	-
Differential Equations	3(3-0)	3-0	Cal. & Anal. Geometry

Semester-IV

Course Title	Credit Hours	Cont hr	Pre-requisite
Computer Networks	4(3-3)	3-3	-
Computer Org. & Assembly Lang.	4(3-3)	3-3	Digital Logic Design
Analysis of Algorithms	3(3-0)	3-0	Data Structures & Algo.
Programming for Artificial Intell.	3(2-3)	2-3	Artificial Intelligence
Operating System	4(3-3)	3-3	Data Structures & Algo.

Semester-V

Course Title	Credit Hours	Cont hr	Pre-requisite
Artificial Neural Networks	3(2-3)	2-3	Programming for AI
Machine Learning	3(2-3)	2-3	Programming for AI
Knowledge Representation & Reasoning	3(3-0)	3-0	Programming for AI
AI Elective-1	3(3-0)	3-0	-
AI Elective-2	3(3-0)	3-0	-
University Elective-1	3(3-0)	3-0	-

Semester-VI

Course Title	Credit Hours	Cont hr	Pre-requisite
Parallel & Distributed Computing	3(2-3)	2-3	OOP, Operating Sys
Computing Vision	3(2-3)	2-3	Artificial Neural Net
Natural Language Processing	3(3-0)	3-0	Artificial Neural Net
AI Elective-3	3(2-3)	2-3	-
AI Elective-4	3(3-0)	3-0	-
University Elective-2	3(3-0)	3-0	-

Semester-VII

Course Title	Credit Hours	Cont hr	Pre-requisite
Final Year Project - I	2(0-2)	0-6	-
Software Engineering	3(3-0)	3-0	-
University Elective-3	3(3-0)	3-0	-
Technical & Business Writing	3(3-0)	3-0	Comm. & Present. Skills
Islamic Studies/ Ethics	2(2-0)	2-0	-

Semester-VIII

Course Title	Credit Hours	Cont hr	Pre-requisite
Final Year Project - II	4(0-4)	0-12	Final Year Project - I
University Elective-4	3(3-0)	3-0	-
Professional Practices	3(3-0)	3-0	-
Pakistan Studies	2(2-0)	2-0	-

SCHEME OF STUDIES FOR BACHELOR OF SCIENCE IN SOFTWARE ENGINEERING (BSSE)

<u>Code</u>	<u>Pre-Req</u>	<u>Course Title</u>	<u>Credit Hours</u>	<u>Course Group</u>	<u>Credit Hours</u>	
Computing Core Courses						
CS-323		Programming Fundamentals	4(3-3)	Computing - Core	39	
CS-423	CS-323	Object Oriented Programming	4(3-3)	General Education	19	
CS-443	CS-323	Data Structures & Algorithms	4(3-3)	University Electives	12	
CS-335		Discrete Structures	3(3-0)	Mathematics & Science	12	
CS-583		Operating System	4(3-3)	Foundation		
CS-400		Database Systems	4(3-3)	Common Courses	82	
CS-453		Software Engineering	3(3-0)	Domain Soft. Engr. (SE)		
CS-577		Computer Networks	4(3-3)	Domain SE Core	24	
CS-497		Information Security	3(3-0)	Domain SE Supporting	09	
CS-698		Final Year Project-I	2(0-04)	Domain SE Electives	15	
CS-699	CS-698	Final Year Project-II	4(0-08)	Domain SE Courses	48	
					Total	130
General Education Courses						
CS-300		Introduction to Information & Communication Technologies	3(2-3)			
ENG-305		English Comprehension	3(3-0)			
ENG-315		Technical & Business Writing	3(3-0)			
ENG-325		Communication & Presentation Skills	3(3-0)			
SSH-307		Professional Practices	3(3-0)			
SSH-302		Pakistan Studies	2(2-0)			
IS-302		Islamic Studies/ Ethics	2(2-0)			
University Elective Courses						
MGT-322		Financial Accounting	3(3-0)			
MGT-351		Introduction to Marketing	3(3-0)			
MGT-411		Introduction to Management	3(3-0)			
MGT-515		Introduction to Human Resource Management	3(3-0)			
ECON-301		Introduction to Economics	3(3-0)			
SSH-305		Foreign Languages	3(3-0)			
PSY-600		Psychology	3(3-0)			
SSH-304		International Relations	3(3-0)			
SSH-308		Personal Grooming & Character Development	2(2-0)			
SSH-309		Social Service	1(1-0)			
AGRO-301		Basic Agriculture	3(2-3)			
RSG-410		Introduction to GIS & Spatial Analysis of Agriculture	3(2-3)			

Scheme of studies for Different Programmes

<u>Code</u>	<u>Pre-Req</u>	<u>Course Title</u>	<u>Credit Hours</u>
Mathematics and Science Foundation Courses			
MTH-310		Calculus & Analytical Geometry	3(3-0)
MTH-435		Linear Algebra	3(3-0)
STT-500		Statistics & Probability	3(3-0)
ELE-401		Basic Electronics	3(2-3)
Software Engineering CORE (Compulsory) Courses			
CS-652	CS-453	Software Project Management	3(3-0)
CS-685		Human Computer Interaction	3(2-3)
CS-666	CS-565	Web Engineering	3(3-0)
SE-415		Software Re-Engineering	3(3-0)
SE-440		Software Design & Architecture	3(2-3)
SE-454		Software Requirements Engineering	3(3-0)
SE-540		Software Construction & Development	3(2-3)
SE-542		Software Quality Engineering	3(3-0)
Software Engineering SUPPORTING courses			
SE-441		Business Process Engineering	3(3-0)
SE-442		Formal Methods in Software Engineering	3(3-0)
SE-510		Introduction to Simulation & Modeling	3(3-0)
CS-573		Operations Research	3(3-0)
CS-673		Stochastic Processes	3(3-0)
Software Engineering ELECTIVE Courses			
CS-432	CS-423	Modern Programming Languages	3(2-3)
CS-436		Big Data Analytics	3(3-0)
CS-449		Cloud Computing	3(3-0)
CS-548		Semantic Web	3(3-0)
CS-553	CS-453	Object Oriented Analysis & Design	3(2-3)
CS-559		Natural Language Processing	3(3-0)
CS-566		Web Technologies	3(2-3)
CS-575	CS-323	Computer Graphics	3(2-3)
CS-601	CS-400	Data Base Administration & Management	4(3-3)
CS-665		E-Commerce	3(2-3)
CS-682		System Programming	3(2-3)
CS-692	CS-423	Visual Programming	3(2-3)
CS-693		Mobile Application Development	3(2-3)
CS-695	CS-423	Theory of Programming Language	3(2-3)
SE-446		Agent Based Software Engineering	3(3-0)
SE-502		Global Software Development	3(3-0)
SE-503		Information Systems Audit	3(3-0)
SE-516		Software Metrics	3(3-0)
SE-518		Topics in Software Engineering	3(3-0)
SE-556		Real Time Systems	3(3-0)

SCHEME OF STUDIES FOR BACHELOR OF SCIENCE (SOFTWARE ENGINEERING)

I SEMESTER

S.No.	Course No.	Pre-Req	Course Title	Credit Hours
1	CS-300 CS-323	-	Introduction to Information & Communication Technologies	3(2-3)
2	ENG-305	-	Programming Fundamentals	4(3-3)
3	MTH-310	-	English Comprehension	3(3-0)
4	ELE-401	-	Calculus & Analytical Geometry	3(3-0)
5	IS-302	-	Basic Electronics	3(2-3)
6		-	Islamic Studies/ Ethics	2(2-0)

II SEMESTER

S.No.	Course No.	Pre-Req	Course Title	Credit Hours
1	CS-423	CS-323	Object Oriented Programming	4(3-3)
2	ENG-325	-	Communication & Presentation Skills	3(3-0)
3	CS-335	-	Discrete Structures	3(3-0)
4	CS-453	-	Software Engineering	3(3-0)
5	SSH-302	-	Pakistan Studies	2(2-0)
6		-	University Elective -1	

III SEMESTER

S.No.	Course No.	Pre-Req	Course Title	Credit Hours
1	CS-443	CS-323	Data Structures & Algorithms	4(3-3)
2	SE-454	-	Software Requirements Engineering	3(3-0)
3	CS-685	-	Human Computer Interaction	3(2-3)
4	MTH-435	-	Linear Algebra	3(3-0)
5		-	University Elective -2	
6		-	SE Supporting I	

IV SEMESTER

S.No.	Course No.	Pre-Req	Course Title	Credit Hours
1	CS-400		Database Systems	4(3-3)
2	CS-583		Operating Systems	4(3-3)
3	STT-500		Statistics & Probability	3(3-0)
4	SE-440		Software Design & Architecture	3(2-3)
5			University Elective -3	
6			SE-Elective -1	

V SEMESTER

S.No.	Course No.	Pre-Req	Course Title	Credit Hours
1	SE-540		Software Construction & Development	3(2-3)
2	CS-577		Computer Networks	4(3-3)
3	ENG-315		Technical & Business Writing	3(3-0)
4			University Elective -4	
5			SE Supporting 2	
6			SE-Elective -2	

VI SEMESTER

S.No.	Course No.	Pre-Req	Course Title	Credit Hours
1	SE-542		Software Quality Engineering	3(3-0)
2	CS-497		Information Security	3(3-0)
3	SSH-307		Professional Practices	3(3-0)
4	CS-666	CS-565	Web Engineering	3(3-0)
5			SE Elective 3	
6			SE Elective 4	

VII SEMESTER

S.No.	Course No.	Pre-Req	Course Title	Credit Hours
1	CS-698		Final Year Project-I	2(0-04)
2	CS-652	CS-453	Software Project Management	3(3-0)
3			SE Supporting 3	
4			SE Elective 5	

VIII SEMESTER

S.No.	Course No.	Pre-Req	Course Title	Credit Hours
1	SE-415		Software Re-Engineering	3(3-0)
2	CS-699	CS-698	Final Year Project - II	4(0-08)

SCHEME OF STUDIES FOR MS(CS)

Program Structure

Description	Thesis Program Non Thesis Program	
	Credit Hours	
3 Core Courses	9	9
5 Specialized Courses (Major)	15	15
Research Thesis Seminar-I	10	9 (3 courses)
	-	1
Total	34	34

Core Courses

S.No.	Course No.	Course Title	Credit Hours
1	CS-718	Theory of Computation	3(3-0)
2	CS-719	Advanced Operating Systems	3(3-0)
3	CS-721	Advanced Algorithm Analysis	3(3-0)
4	CS-799	MS Thesis	10(0-20)

Software Engineering

S.No.	Course No.	Course Title	Credit Hours
1	CS-726	Advanced Software Engineering	3(3-0)
2	CS-732	Object Oriented Software Engineering	3(3-0)
3	CS-734	Formal Software Specification and Development	3(3-0)
4	CS-736	Software Quality Assurance	3(3-0)
5	CS-738	Software Requirements Engineering	3(3-0)
6	CS-739	Software Engineering Process	3(3-0)
7	CS-742	Software Project Management	3(3-0)
8	CS-743	Trends in Software Engineering	3(3-0)
9	CS-744	Software Analysis and Design Patterns	3(3-0)
10	CS-746	Topics on Object Oriented Analysis and Design	3(3-0)
11	CS-748	Software Architecture	3(3-0)
12	CS-808	Software Risk Management	3(3-0)
13	CS-809	Software Measurement Metrics	3(3-0)
14	CS-810	Software Configuration Management	3(3-0)
15	CS-811	Component Based Software Engineering	3(3-0)

Networks and Communication

S.No.	Course No.	Course Title	Credit Hour
1	CS-750	Advanced Computer Networks	3(3-0)
2	CS-751	Network Security	3(3-0)
3	CS-752	Wireless Networks	3(3-0)
4	CS-755	Integrated Services Over Packet Network	3(3-0)
5	CS-756	Network Transfer Protocol	3(3-0)
6	CS-803	Cloud Computing Security	3(3-0)
7	CS-804	Network Switching and Routing	3(3-0)
8	CS-805	Wireless Sensor Network	3(3-0)
9	CS-806	Advanced Simulation and Modeling	3(3-0)

Artificial Intelligence

S.No.	Course No.	Course Title	Credit Hours
1	CS-757	Pattern Recognition	3(3-0)
2	CS-758	Decision Support Systems	3(3-0)
3	CS-761	Machine Learning	3(3-0)
4	CS-762	Neural Networks	3(3-0)
5	CS-764	Computer Vision	3(3-0)
6	CS-765	Data Mining	3(3-0)
7	CS-767	Advanced Topics in Artificial Intelligence	3(3-0)
8	CS-769	Multimedia Databases	3(3-0)
9	CS-770	Advanced Computer Graphics	3(3-0)
10	CS-775	Advanced Data Mining	3(3-0)
11	CS-801	Semantic Web	3(3-0)
12	CS-802	Information Retrieved	3(3-0)



SCHEME OF STUDIES FOR Ph.D(CS)

Program Structure

Course Title	Credit Hours
6 Courses	18
Research Thesis	50
Seminar - I	1
Seminar - II	1
Total	70

Core Courses

S.No.	Course No.	Course Title	Credit Hours
1	CS-799	Research Thesis	50(0-100)
2	CS-720	Seminar - I	1(1-0)
3	CS-720	Seminar - II	1(1-0)
4	CS-800	Advanced Research Methodology	3(3-0)

Supervisory Courses

S.No.	Course No.	Course Title	Credit Hours
1	CS-795	Special Topics in CS-I	3(3-0)
2	CS-796	Special Topics in CS-II	3(3-0)

General Courses

S.No.	Course No.	Course Title	Credit Hours
1	CS-718	Theory of Computation	3(3-0)
2	CS-719	Advanced Operating System	3(3-0)
3	CS-721	Advanced Algorithm Analysis	3(3-0)

Software Engineering

S.No.	Course No.	Course Title	Credit Hours
1	CS-726	Advanced Software Engineering	3(3-0)
2	CS-820	Advanced Topics in Software Engineering	3(3-0)
3	CS-821	Object Oriented Modeling	3(3-0)
4	CS-732	Object Oriented Software Engineering	3(3-0)
5	CS-734	Formal Software Specification and Development	3(3-0)
6	CS-736	Software Quality Assurance	3(3-0)
7	CS-738	Software Requirements Engineering	3(3-0)
8	CS-739	Software Engineering Process	3(3-0)
9	CS-822	Model and Specification-based Software Testing	3(3-0)
10	CS-742	Software Project Management	3(3-0)
11	CS-743	Trends in Software Engineering	3(3-0)
12	CS-744	Software Analysis and Design Patterns	3(3-0)
13	CS-746	Topics in Object Oriented Analysis and Design	3(3-0)
14	CS-823	Software Fault Tolerance	3(3-0)
15	CS-748	Software Architecture	3(3-0)
16	CS-808	Software Risk Management	3(3-0)
17	CS-809	Software Measurement & Metrics	3(3-0)
18	CS-810	Software Configuration Management	3(3-0)
19	CS-811	Component Based Software Engineering	3(3-0)

Networks & Communication

S.No.	Course No.	Course Title	Credit Hours
1	CS-750	Advanced Computer Networks	3(3-0)
2	CS-751	Network Security	3(3-0)
3	CS-752	Wireless Networks	3(3-0)
4	CS-831	Network Performance Evaluation	3(3-0)
5	CS-832	Network Programming	3(3-0)
6	CS-755	Integrated Services Over Packet Networks	3(3-0)
7	CS-756	Network Transfer Protocol	3(3-0)
8	CS-803	Cloud Computing Security	3(3-0)
9	CS-804	Network Switching and Routing	3(3-0)
10	CS-805	Wireless Sensor Networks	3(3-0)
11	CS-806	Advanced Simulation and Modeling	3(3-0)

Database Systems

S.No.	Course No.	Course Title	Credit Hour
1	CS-776	Advanced DBMS	3(3-0)
2	CS-777	Data Warehousing	3(3-0)
3	CS-778	Object Oriented Databases	3(3-0)
4	CS-779	Web-Based DBMS	3(3-0)
5	CS-780	Topics in DBMS	3(3-0)
6	CS-807	Big Data Analysis	3(3-0)

Artificial Intelligence/Data Mining/Image Preccessing/Computer Graphics

S.No.	Course No.	Course Title	Credit Hours
1	CS-757	Pattern Recognition	3(3-0)
2	CS-758	Decision Support Systems	3(3-0)
3	CS-841	Advanced Topics in AI Programming	3(3-0)
4	CS-842	Design of Intelligent Systems	3(3-0)
5	CS-761	Machine Learning	3(3-0)
6	CS-762	Neural Networks	3(3-0)
7	CS-764	Computer Vision	3(3-0)
8	CS-765	Data Mining	3(3-0)
9	CS-843	Digital Image Processing	3(3-0)
10	CS-767	Advanced Topics in Artificial Intelligence	3(3-0)
11	CS-844	Multi Agent Systems	3(3-0)
12	CS-769	Multimedia Databases	3(3-0)
13	CS-770	Advanced Computer Graphics	3(3-0)
14	CS-775	Advanced Data Mining	3(3-0)
15	CS-801	Semantic Web	3(3-0)
16	CS-802	Information Retrieval	3(3-0)



This Institute offers undergraduate and postgraduate degree programmes in the field of Remote Sensing & GIS.

Director	Dr. Allah Bakhsh
Associate Professor	Dr. Muhammad Hasan Ali Baig
Assistant Professor	Dr. Muhammad Imran
Lecturers	Mr. Muhammad Amin Mr. Naeem Abbas Malik

PROGRAMS BEING OFFERED

1- BS (Geo-Informatics) 4 Years - Morning

F.Sc (Pre-Engineering/Pre-Medical/ICS) with at least 50% from recognized Board are F.Sc (Pre-Agriculture) with CGPA of at least 2.50/4.00.

2- MS (RS & GIS) 1.5 Years - Evening

Sixteen years of education with the last degree in Remote Sensing & GIS/Geo-Informatics/Space Sciences/PGD (RS&GIS) with at least **CGPA** of 2.50/4.00 or 50% in the last degree under annual system.

3- MS (RS & GIS) 2 Years - Evening

Sixteen years of education with the last degree in Sciences / Computer Sciences/Engineering/Geography and related discipline with at least **CGPA** of 2.50/4.00 or 50% in the last degree under annual system.

4- Ph.D (Remote Sensing & GIS) - Evening

MS (Remote Sensing & GIS)/ Space Science/Geo-Informatics degree with at least CGPA of 3.00/4.00.

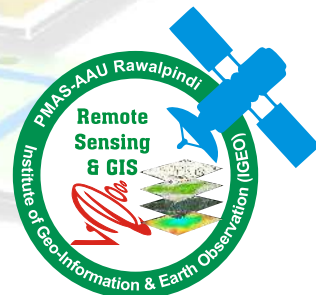
Other disciplines (Sciences/Computer Sciences/Engineering/ Geography and Related disciplines) will have to enroll in prerequisites/deficiency courses in Zero Semester as per HEC prescribed guidelines.

must have passed University Entrance Test with 70% marks.

The Ph.D Applications must be accompanied by comprehensive research proposal.

IGEO is proud to offer research in various disciplines of GIS & Remote Sensing (but not limited to):

- Agriculture monitoring, mapping, classification
- Precision Agriculture
- Disaster monitoring and mitigation
- Surveying and urban planning
- Water resource management
- Environmental monitoring
- Coastal eco-system monitoring
- Landuse Landcover (LULC)
- Infrastructure development planning and monitoring
- Mineral exploration
- Food Security
- Demographic analysis
- Climate Change
- Advance geospatial analysis
- Photogrammetry
- Machine Learning
- Web GIS



BS Geo-informatics Academic Standing:

- (a) Maximum Grade Point Average 4.00
- (b) Minimum Grade Point Average for obtaining the degree 2.50

(ii) To remain on the roll of the University a student shall be required to maintain the following minimum GPA/ CGPA in each semester:

Semester	CGPA
1st	0.75
2nd	1.00
3rd	1.25
4th	1.50
5th	1.75
6th	2.00
7th	2.25
8th	2.50



MS (RS&GIS)

A minimum of four semesters duration program after 4 years BS (Remote Sensing & GIS) degree or Minimum of 16 years of education in Science discipline (HEC Recognized Institutes/Universities).

Admission to the Course:

1. Must have passed the BS (Remote Sensing & GIS) or 16 years of education in Science discipline with 50% marks or 2.50 CGPA out of 4.00.
2. Admission will be on open merit basis.

Academic Standing:-

- i. Grade Point Average
 - a. Maximum grade point average: 4.00
 - b. Minimum grade point average for obtaining the degree: 2.50
- ii. To remain on roll of the University a student shall be required to maintain the following minimum CGPA in each semester.

Semester	CGPA
1st	1.50
2nd	1.75
3rd	2.00
4th	2.50

SCHEME OF STUDIES FOR BS (GEO-INFORMATICS)

I SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	RSG-301	Fundamentals of Remote Sensing	3(2-1)
2	RSG-303	Introduction to Geographic Information System	3(2-1)
3	ENG-305	Fundamentals English and Communication Skills	3(3-0)
4	SSH-307	Pakistan Studies	2(2-0)
5	IS-302/ET-302	Islamic Studies/Ethics	2(2-0)
6	CS-311	Computer Basics	3(2-1)

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II SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	RSG-302	Physical and Human Geography	3(2-1)
2	RSG-304	Geo-data Capturing, Sources and Standards	3(2-1)
3	CS-310	Introduction to Database Systems	3(2-1)
4	MATH-308	Linear Algebra and Applications	3(3-0)
5	CS-312	Fundamentals of Computer Programming	3(2-1)
6	PHY-310	Applied Physics	3(2-1)

18

The student will have to study the following courses in addition to following course:

SOS-301 Moral Foundations of Education 2(2-0)

III SEMESTER

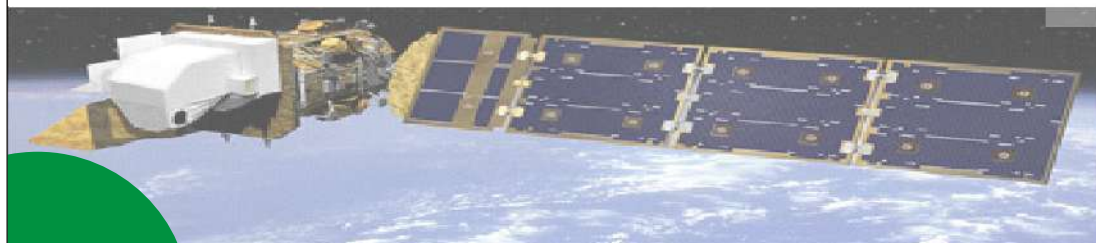
S.No.	Course No.	Course Title	Credit Hours	Pre-Req
1	RSG-401	Introduction of Photogrammetry	3(2-1)	-
2	RSG-403	Cartography	3(2-1)	-
3	RSH-405	Geo-Database Systems	3(2-1)	CS-310
4	MATH-407	Introduction to Calculus & Analytical Geometry	3(3-0)	-
5	MATH-409	Applied Statistics	3(3-0)	-
6	CS-411	Object Oriented Programming	3(3-0)	CS-312

18

IV SEMESTER

S.No.	Course No.	Course Title	Credit Hours	Pre-Req
1	RSG-402	Advanced Surveying Techniques	3(2-1)	-
2	RSG-404	Advanced Remote Sensing Techniques	3(2-1)	RSG-301
3	RSG-406	Geo-Statistics	3(2-1)	-
4	RSG-408	Navigation Systems	3(2-1)	-
5	CS-410	Computer Graphics	3(2-1)	CS-312
6	MATH-408	Discrete Mathematics	3(3-0)	MATH-407

18



SCHEME OF STUDIES FOR BS (GEO-INFORMATICS)

V SEMESTER

S.No.	Course No.	Course Title	Credit Hours	Pre-Req
1	RSG-501	Digital Image Processing	3(2-1)	RSG-301, RSG-401
2	RSG-505	Web GIS	3(2-1)	-
3	RSG-507	Spatial Data Structure and Modeling	3(2-1)	RSG-303
4	RSG-509	Geodesy	3(2-1)	RSG-303
5	CS-513	Introduction to Data Structures and Algorithms	3(2-1)	CS-312 CS-411
6	RSG-511	Spatial Data Analysis	3(2-1)	RSG-303 RSG-301
			18	

VII SEMESTER

S.No.	Course No.	Course Title	Credit Hours	Pre-Req
1	RSG-601	Spatial Data Infrastructure	3(2-1)	RSG-405 RSG-505
2		Technical Writing and Presentation Skills	3(2-1)	
3		Elective I	3(2-1)	
4	RSG-603	Elective II	3(2-1)	
5	RSG-613	Final Project I	3(2-1)	
Elective I and II (Two courses to be selected)				
	RSG-605	GIS Applications in Hydrology	3(2-1)	
	RSG-607	Weather Analysis and Forecasting	3(2-1)	
	RSG-609	GIS for Disaster Management	3(2-1)	
	RSG-611	Geospatial Applications in Urban Planning	3(2-1)	
			15	

VI SEMESTER

S.No.	Course No.	Course Title	Credit Hours	Pre-Req
1	RSG-502	Remote Sensing Applications	3(2-1)	RSG-404
2	RSG-504	Spatial Decision Support Systems	3(2-1)	RSG-511
3	RSG-506	Computer Programming for GIS Development	3(2-1)	RSG-303 CS-312
4	RSG-508	Geospatial Project Management	3(2-1)	RSG-303 RSG-404
5	RSG-510	Research Methods	3(2-1)	-
6	RSG-512	Climate Change	3(2-1)	-
			18	

VIII SEMESTER

S.No.	Course No.	Course Title	Credit Hours
1	RSG-602	Natural Resource Management	3(2-1)
2	RSG-604	Professional Ethics	3(2-1)
3		Elective III	3(2-1)
4		Elective IV	3(2-1)
5	RSG-613	Final Project II	
Elective III and IV (Two courses to be selected)			
	RSG-606	Land Information System	3(2-1)
	RSG-608	GIS Applications in Agriculture	3(2-1)
	RSG-610	Microwave & Hyper-Spectral Remote Sensing	3(2-1)
	RSG-612	Programming for Image Analysis	3(2-1)
			15

Postgraduate Programs at IGEO

Postgraduate Deficiency Courses

S.No. Course No. Course Title

1	RSG-701	Introduction to GIS and Spatial Analysis
2	RSG-702	Introduction to Remote Sensing and Digital Image Processing
3	RSG-703	Introduction to GIS Database and Programming
4	RSG-704	Prescribed Mathematics Course

Postgraduate Core Courses

S.No.	Course No.	Course Title	Credit Hours
1	RSG-705	Advanced Remote Sensing and Digital Image Processing	3(2-1)
2	RSG-706	Advanced GIS & Spatial Analysis	3(2-1)
3	RSG-707	Spatial Data Warehouse and Mining	3(3-0)
4	RSG-708	Advanced Research Methods	3(3-0)
5	RSG-709	Advanced Programming for Image Analysis	3(2-1)
6	RSG-710	Food Security & Climate Change	3(3-0)
7	RSG-711	Applied Remote Sensing and GIS	3(2-1)
8	RSG-712	Statistical Data Analysis	3(2-1)
9	RSG-713	Geospatial Data Modeling	3(2-1)
10	RSG-714	Climate Data Analysis & Modelling	3(2-1)



Postgraduate Elective/Minor Courses

S.No.	Course No.	Course Title	Credit Hours
1	RSG-701	Introduction to GIS and Spatial Analysis	3(2-1)
2	RSG-702	Introduction to Remote Sensing and Digital Image Processing	3(2-1)
3	RSG-716	Crop Growth Modelling	3(2-1)
4	RSG-717	Geo-Information for Agriculture Monitoring	3(3-0)
5	RSG-718	Forest Management	3(2-1)
6	RSG-719	Soil Geomorphology and Classification	3(2-1)
7	RSG-720	Geo Spatial Analysis for Hydrology	3(3-0)
8	RSG-721	Biodiversity	3(3-0)
9	RSG-722	Management of Energy Resources	3(3-0)
10	RSG-723	Management of Mineral Resources	3(3-0)
11	RSG-724	Coastal Zone Management	3(3-0)
12	RSG-725	Natural Resources Exploration	3(3-0)
13	RSG-726	Natural Hazards and Disaster Management	3(3-0)
14	RSG-727	Environmental Pollution	3(2-1)
15	RSG-728	Environmental Impact Assessment	3(2-1)
16	RSG-729	Environmental Decisions and Conflict Resolution	3(3-0)

S.No.	Course No.	Course Title	Credit Hours
17	RSG-730	Disease Ecology	3(3-0)
18	RSG-731	Climatology	3(3-0)
19	RSG-732	Land Use Planning and Management	3(2-1)
20	RSG-733	District Planning and Management	3(2-1)
21	RSG-734	Urban Planning	3(2-1)
22	RSG-735	Infrastructure and Transport Planning	3(3-0)
23	RSG-736	E-Governance	3(2-1)
24	RSG-737	Planning and Management of Housing	3(3-0)
25	RSG-738	Poverty Alleviation	3(3-0)
26	RSG-739	Tourism Development	3(3-0)
27	RSG-740	Education and Health Services	3(2-1)
28	RSG-741	Business and Marketing	3(2-1)
29	RSG-742	Land Information and Management System	3(3-0)
30	RSG-743	Utilities and Services Management	3(3-0)
31	RSG-744	Advanced Geodesy	3(3-0)
32	RSG-745	GIS Standards, Security and ethics	3(2-1)
33	RSG-746	Integrated Geo-Technologies	3(3-0)
34	RSG-747	Corporate GIS	3(2-1)
35	RSG-748	Web GIS	3(3-0)
36	RSG-749	Fuzzy GIS	3(3-0)
37	RSG-750	Neural Networks and Artificial Intelligence	3(3-0)
38	RSG-751	Climate Chang	3(3-0)
39	RSG-752	Emergency Response Planning and Management	3(2-1)
40	RSG-753	Flood Modeling	3(3-0)
41	RSG-754	Archeology	3(3-0)
42	RSG-755	GIS for Energy Management	3(2-1)
43	RSG-756	Agro-meteorology	3(2-1)
44	RSG-757	Ground Water Modeling	3(2-1)
45	RSG-758	Watershed Modeling and Management	3(2-1)
46	RSG-760	Advanced Mobile GIS	3(2-1)
47	RSG-761	Advanced Topics in GIS	3(2-1)
48	RSG-762	Advanced Topics in Remote Sensing	3(2-1)
49	RSG-763	Risk Assessment and Mapping	3(2-1)
50	RSG-764	Early Warning System	3(2-1)
51	RSG-765	Spectroscopy Theory	3(3-0)
52	RSG-766	Numerical Modeling	3(3-0)
53	RSG-767	GPS and Applications	3(2-1)
54	RSG-768	Digital Photogrammetry	3(3-0)
55	RSG-769	Terrain Mapping and Modeling	3(2-1)
56	RSG-770	Land Information System	3(3-0)
57	RSG-771	Forest Management	3(3-0)
58	RSG-772	Food Security	3(3-0)
59	RSG-773	Environmental Impact Assessment	3(3-0)



Institute of Food and Nutritional Sciences offers following degree programs at undergraduate and Postgraduate level.

- i. B.Sc (Hons.) Human Nutrition and Dietetics
- ii. B.Sc (Hons.) Food Science & Technology
- iii. M.Sc (Hons.) Agriculture (Major in Food Technology)
- iv. M.Sc (Hons.) Human Nutrition and Dietetics
- v. M.Sc (Hons.) Food Safety and Quality Management
- vi. Ph.D Food Technology



Director	Prof. Dr. Anwaar Ahmed
Professor	Prof. Dr. Asif Ahmad
Associate Professor	Dr. Asma Sohail
Assistant Professors	Dr. Rai Muhammad Amir Dr. Kashif Sarfraz Abbasi
Lecturers	Ms. Asia Latif Mr. M. Tauseef Azam Mr. M. Adeel Javed



PROGRAMS OFFERED

B. Sc. (Hons.) Human Nutrition and Dietetics

Admission and Registration

(i) **Minimum Academic Requirements:**

- F.Sc. (Pre-Medical) or relevant degree or an equivalent examination from recognized institution / Board or Diploma in Food Science and Technology (3yrs)/F. Sc. Pre-Agriculture
- Candidate securing at least 50% marks excluding 20 marks for Hafiz-e-Quran.

AGE:

A candidate must not be more than 23 years of age on 1st October of the year of admission; provided that the Vice-Chancellor may relax age limit in very exceptional case.

B. Sc. (Hons.) Food Science & Technology

Admission and Registration

(i) **Minimum Academic Requirements:**

- F.Sc. (Pre-Medical/Pre-Engr.) or relevant degree or an equivalent examination from recognized institution / Board or Diploma in Food Science and Technology (3yrs) / F. Sc. Pre-Agriculture. Candidate securing at least 50% marks excluding 20 marks for Hafiz-e-Quran.

AGE:

A candidate must not be more than 23 years of age on 1st October of the year of admission; provided that the Vice-Chancellor may relax age limit in very exceptional case.

Distribution of Seats for B.Sc. (Hons.) Human Nutrition and Dietetics Programme

CATEGORY	NUMBER OF SEATS
Morning	
Open Merit	74
Special/Disabled Persons	02
Children of University Employees	
i. Teaching Staff	02
ii. Non Teaching Staff	02
Evening	80
Total	160
2% quota reserved for minorities	

Distribution of Seats for B.Sc. (Hons.) Food Science and Technology

CATEGORY	NUMBER OF SEATS
Morning	
Open Merit	46
Children of University Employees	
i. Teaching Staff	02
ii. Non Teaching Staff	02
Evening	50
Total	100
2% quota reserved for minorities	

Ph.D (Food Technology)

REQUIRED QUALIFICATION

M.Sc (Hons.) Food Technology with CGPA of at least 3.00/4.00 in the relevant discipline. Must have passed University Entrance Test with 70% marks. The Ph.D applications must be accompanied by comprehensive project proposals.

M.Sc (Hons.) Food Technology 2 years (Morning)

REQUIRED QUALIFICATION

B.Sc (Hons.) Agriculture (Food Technology)/B.Sc (Hons.) Food Science and Technology in the relevant subject with CGPA of at least 2.50/4.00. Must have passed University Entrance Test.

M.Sc (Hons.) Human Nutrition & Dietetics 2 years (Morning)

REQUIRED QUALIFICATION

B.Sc (Hons.) Human Nutrition and Dietetics or B.Sc (Hons.) Agriculture major in Food Technology/B.Sc (Hons.) Food Science and Technology (with deficiency courses)/B.Sc Home Economics major in Food and Nutrition or relevant degree or an equivalent examination for HEC recognized institution with at least CGPA of 2.50/4.00. Must have passed University Entrance Test.

M.Sc (Hons.) Food Safety & Quality Management 2 years (Morning)

REQUIRED QUALIFICATION

B.Sc (Hons.) Agriculture major in Food Technology/B.Sc (Hons.) Food Science and Technology/
B.Sc (Hons.) Human Nutrition and Dietetics or relevant degree or an equivalent examination from HEC recognized institution with CGPA of at least 2.50/4.00. Must have passed University Entrance Test.

SCHEME OF STUDIES FOR B.SC. (HONS.) HUMAN NUTRITION AND DIETITICS**SEMESTER - I**

COURSE	TITLE OF COURSE	CREDITS
Math-301	Mathematics-I	3(3-0)
SSH-301	Pakistan Studies	2(2-0)
ENG-301	Functional English	3(3-0)
SOC-301	Introduction of Sociology	3(3-0)
HND-301	Fundamentals of Human Nutrition	3(3-0)
HND-303	Food Processing and Preservation	3(2-2)

17**SEMESTER - II**

STAT-302	Statistics and Biometry	3(3-0)
ENG-302	Communication Skills	3(3-0)
BCH-310	Introductory Biochemistry	3(2-2)
HND-302	Human Anatomy	3(2 -2)
HND-304	Human Physiology-I	3(2-2)
HND-306	Micro and Macronutrients in Human Nutrition	3(3-0)

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SEMESTER - III

COURSE	TITLE OF COURSE	CREDITS
IS/ET-401	Islamic Studies/Ethics	2(2-0)
BCH-306	General Microbiology	3(2-2)
HND-401	Food Safety and Quality Management	3(3-0)
HND-403	Meal Planning and Management	3(2-2)
HND-405	Human Physiology II	3(2-2)
HND-407	Food Analysis and Sensory Evaluation	3(2-2)

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SEMESTER - IV

CS-402	Introduction to Computing	3(2-2)
HND-402	General Pathology	3(2-2)
HND-404	Metabolism of Nutrients	2(2-0)
HND-406	Diet Modeling and Counselling	3(2-2)
HND-408	Nutrition Epidemiology	2(2-0)
HND-410	Food Microbiology	3(2-2)
HND-412	Assessment of Nutritional Status	3(2-2)

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SEMESTER - V

COURSE	TITLE OF COURSE	CREDITS
HND-501	Dietetics-I	3(2-2)
HND-503	Nutrition and Psychology	3(3-0)
HND-505	Food and Drug Laws	2(2-0)
HND-507	Nutritional Education and Awareness	3(2-2)
HND-509	Clinical Biochemistry	3(2-2)
HND-511	Functional Foods and Nutraceuticals	3(3-0)
HND-513	Public Health Nutrition	3(2-2)

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HND-502	Dietetics-II	3(2-2)
HND-504	Nutrition in Emergency	3(3-0)
HND-506	Nutrition through Life Cycle	3(3-0)
HND-508	Nutritional Practices in Clinical Care	3(2-2)
HND-510	Infant and Young Child Feeding	3(2-2)
HND-512	Medical Nutrition Therapy	3(3-0)

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SEMESTER - VII

COURSE	TITLE OF COURSE	CREDITS
HND-601	Dietetics-III	3(2-2)
HND-603	Food and Drug Interactions	2(2-0)
HND-605	Global Food Issues	3(3-0)
HND-607	Research Methods in Nutrition	3(3-0)
HND-609	Sports Nutrition	3(2-2)
HND-611	Nutritional Deficiency Disorders	3(3-0)

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SEMESTER - VIII

HND-602	Internship/House job	5(0-10)
HND-604	Nutritional Immunology	3(3-0)
HND-606	Food Service Management	3(3-0)
HND-608	Nutrition Policies and Programs	3(3-0)

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Scheme of studies for B.Sc (Hons.) Food Science & Technology

Semester-I

Course Code	Course Title	Credit Hours
MATH-301/ BIOL-301	Mathematics-I / General Biology-I	3(3-0)/ 3(2-2)
STAT-301	Statistics and Biometry	3(3-0)
CS-301	Introduction to Computing	3(2-2)
ENG-301	Functional English	3(3-0)
SSH-301	Pakistan Studies	2(2-0)
BCH-310	Introductory Biochemistry	3(2-2)
FST-301	Introduction to Food Sci. & Tech.	3(2-2)

Semester-II

Course Code	Course Title	Credit Hours
MATH-302/ BIOL-302	Mathematics-II /General Biology-II	3(3-0)/ 3(2-2)
IS-302/ ET-302	Islamic Studies/ Ethics	2(2-0)
AGRO-302	Basic Agriculture	3(2-2)
HORT-302	Introduction to Horticulture	3(2-2)
FST-302	General Microbiology	3(2-2)
FST-304	Food Processing and Preservation	3(2-2)

Semester-III

Course Code	Course Title	Credit Hours
ENT-401	Introductory Entomology	2(1-2)
PP-401	Introduction to Plant Pathogens	2(1-2)
ENG-401	Communication Skills	3(3-0)
FST-401	Food Plant Layout	2(2-0)
FST-403	Food Process Engineering I	3(2-2)
FST-405	Food Biotechnology	3(2-2)
FST-407	Food Quality Management	2(2-0)

Semester-IV

Course Code	Course Title	Credit Hours
MGT-405	Introduction to Marketing Management	3(3-0)
FST-402	Fluid Mechanics	3(2-2)
FST-404	Food Process Engineering II	3(3-0)
FST-406	Food Product Development	3(3-0)
FST-408	Fruit and Vegetable Processing	3(2-2)
FST-410	Food Toxicology and Safety	3(3-0)

Semester-V

Course Code	Course Title	Credit Hours
FST-501	Principles of Human Nutrition	3(3-0)
FST-503	Instrumental Techniques in Food Analysis	3(2-2)
FST-505	Food Microbiology	3(2-2)
FST-507	Technology of Fats and Oils	3(2-2)
FST-509	Beverage Technology	3(2-2)
FST-511	Extrusion Technology	3(2-2)

Semester-VI

Course Code	Course Title	Credit Hours
FT-502	Sugar Technology	3(2-2)
FT-504	Dairy Technology	3(2-2)
FT-506	Post Harvest Technology	3(2-2)
FT-508	Food Chemistry	3(3-0)
FT-510	Food Safety and Food Laws	3(3-0)
FT-512	Confectionery and Snack Foods	3(2-2)

Semester-VII

Course Code	Course Title	Credit Hours
FST-601	Community Nutrition	3(2-2)
FST-603	Cereal Technology	3(2-2)
FST-605	Meat Technology	3(2-2)
FST-607	Unit Operations in Food Processing	3(3-0)
FST-609	Project Planning, Execution and Scientific Writing	2(1-2)
FST-611	Food Packaging	3(2-2)
FST-613	Milk and Meat Hygiene and PublicHealth	3(2-2)

Semester-VIII

Course Code	Course Title	Credit Hours
FST-602	Internship	10(0-20)

Scheme of Studies for M. Sc. (Hons.) Human Nutrition and Dietetics

COURSE	TITLE OF COURSE	CREDITS
HND-701	Food Quality Assurance Management	3(3-0)
HND-702	Advanced Food Biotechnology	3(2-2)
HND-703	Recent Advances in Food Sciences and Technology	3(3-0)
HND-704	Advanced Food Microbiology	3(2-2)
HND-705	Advanced Food Chemistry	3(2-2)
HND-706	Processes in Clinical Nutrition	3(3-0)
HND-707	Nutritional Status Assessment	3(3-0)
HND-708	Nutritional Biochemistry and Physiology	3(3-0)
HND-709	Clinical and Therapeutic Nutrition	3(2-2)
HND-710	Nutritional Epidemiology and Research Methods	3(3-0)
HND-711	Community Nutrition	3(3-0)
HND-712	Dietetics and Preventive Nutrition	3(3-0)
HND-713	Food Supply Chain Management	3(3-0)
HND-714	Functional Foods and Nutraceuticals	3(2-2)
HND-715	Advances in Human Nutrition	3(3-0)
HND-719	Special Problem	1(1-0)
HND-720	Seminar I & II	1(1-0)
HND-799	Research and Thesis	10(0-20)
Compulsory Courses		
STAT-701	Experimental Statistics	3(3-0)
BCH-701	Biochemistry	3(2-2)
MGT-713	Human Resource Management	3(3-0)

Scheme of Studies for M.Sc. (Hons.)/Ph.D Food Technology

COURSE	TITLE OF COURSE	CREDITS
FT-701	Food Quality Assurance Management	3(3-0)
FT-702	Food Additives	3(2-2)
FT-703	Food Enzymology	3(2-2)
FT-704	Advanced Food Biotechnology	3(2-2)
FT-705	Food Toxicology	3(3-0)
FT-706	Baking Science and Technology I	3(2-2)
FT-707	Baking Science and Technology II	3(2-2)
FT-708	Milling of Cereals	3(2-2)
FT-709	Starch Chemistry and Technology	3(2-2)
FT-710	Post-Harvest Management	3(3-0)
FT-711	Dairy Processing-I	3(2-2)
FT-712	Dairy Processing-II	3(2-2)
FT-713	Food Industrial Waste Management	3(2-2)
FT-714	Chemistry of Edible Oils and Fats	3(2-2)
FT-715	Ind. Processing Technol. of Edible Oils & Fats Products	3(2-2)
FT-716	Processing of Meat and Meat Products	3(2-2)
FT-717	Advanced Beverage Technology	3(2-2)
FT-718	Food Packaging	3(2-2)
FT-719	Special Problem	1(1-0)
FT-720	Seminar	1(1-0)
FT-721	Physical Properties of Food	3(2-2)
FT-722	Recent Advances in Food Science and Technology	3(3-0)
FT-723	Advanced Food Microbiology	3(2-2)
FT-724	Advanced Food Chemistry	3(2-2)
FT-725	Functional Foods and Nutraceuticals	3(2-2)
FT-726	Prebiotics and Probiotics	3(3-0)
FT-727	Technology of Spices and Condiments	3(2-2)
FT-728	Food Supply Chain Management	3(3-0)
FT-729	New Trends in Fruits and Vegetables Processing	3(3-0)
FT-730	Advances in Food Safety	3(3-0)
FT-799	Research and Thesis	10(0-20)
FT-799	Research and Thesis	50(0-100)

SCHEME OF STUDIES FOR

M.Sc. (Hons.) FOOD SAFETY AND QUALITY MANAGEMENT

COURSE	TITLE OF COURSE	CREDITS
FSQM-701	Food Quality Assurance Management	3(3-0)
FSQM-702	Food Safety and Quality Management	3(3-0)
FSQM-703	Food Technology and Packaging	3(3-0)
FSQM-704	Food Laws, Regulation and Auditing	3(3-0)
FSQM-705	Food Toxicology	3(3-0)
FSQM-706	Public Health and Nutrition	3(3-0)
FSQM-707	Global Issues in Food Security and Safety	3(3-0)
FSQM-708	Food Labeling, Traceability and Authenticity	3(2-2)
FSQM-709	Food Sampling Techniques and Analysis	3(2-2)
FSQM-710	Safe Food Supply Chain Management	3(3-0)
FSQM-711	Consumer Behavior and Preferences	3(3-0)
FSQM-712	Advanced Food Microbiology	3(2-2)
FSQM-713	Recent Advances in Food Sciences and Technology	3(3-0)
FSQM-714	Food Industrial Waste Management	3(3-0)
FSQM-719	Special Problem	1(1-0)
FSQM-720	Seminar I & II	1(1-0)
FSQM-799	Research and Thesis	10(0-20)
Compulsory Courses		
STAT-701	Experimental Statistics	3(3-0)
BCH-701	Biochemistry	3(2-2)
MGT-713	Human Resource Management	3(3-0)

The discipline of Biochemistry in PMAS-AAUR was initially introduced under the umbrella of the Department of Biological Sciences in 1998 and as a separate Department in 2003. The University Institute of Biochemistry and Biotechnology (UIBB) developed under HEC funded project "Establishment of University Institute of Biochemistry and Biotechnology (EUIBB)" became functional in 2013. The institute aims to excel in advanced research in Biochemistry, Molecular Biology, and Biotechnology to provide means in controlling various diseases related to plant, animal and human as well as to enhance agriculture and livestock productivity with particular emphasis to high priority areas related to Pakistan's economic growth.

Director	Prof. Dr. Ghazala Kaukab
Professor	Prof. Dr. M. Javaid Asad
Associate Professors	Dr. M. Sheeraz Ahmad Dr. Feroza Hamid Wattoo
Assistant Professors	Dr. Pakeeza Arzo Shaiq Dr. Sadia Saeed Dr. Tayyaba Zainab Dr. Bilal Muhammad Khan Dr. Uzma Abdullah
Lecturer	Ms. Hina Ali

Research Divisions

- Animal Biochemistry & Biotechnology
- Bioinformatics
- General Biochemistry
- Industrial Biochemistry & Biotechnology
- Plant Biochemistry & Biotechnology
- Microbiology

The institute is offering following degree programs in the fields of Biochemistry, Biotechnology and Microbiology;

BS 4 year Degree Programs

- BS Biochemistry (Morning and Evening)
- BS Biotechnology (Morning)
- BS Microbiology (Morning and Evening)

M.Phil 2 Years Degree Programs

- M.Phil Biochemistry
- M.Phil Biotechnology

Doctoral Degree Programs

- Ph.D Biochemistry
- Ph.D Biotechnology



BS (BIOCHEMISTRY, BIOTECHNOLOGY, MICROBIOLOGY)

In addition to general regulation the following regulations are also applicable to the four-year BS Degree in Biochemistry, Biotechnology and Microbiology;

For BS Degree in Biochemistry:50 Seats (Morning) and 50 Seats (Evening)

For BS Degree in Biotechnology:50 Seats (Morning)

For BS Degree in Microbiology:50 Seats (Morning) and 50 Seats (Evening)

1. Minimum Requirements for the Award of Degree

- (i) The duration of the Course for completing the course for the degree of Bachelor of Sciences (Biochemistry, Biotechnology and Microbiology) shall normally be eight semesters and maximum 12 semesters.
- (ii) The minimum course requirement is 130 credit hours.
- (iii) A full time student shall be required to take courses not less than 12 credits hours in a semester.

2. Admission and Registration:-

- i. Minimum Academic Requirement (BS Biochemistry, BS Biotechnology and BS Microbiology):-
 - a. A person holding Intermediate Sciences Certificate (Pre-Medical) or an equivalent certificate from any recognized Institute/College with at least 50% marks excluding Hafiz-e-Quran, or any other marks specified shall be eligible for admission to BS Biochemistry, BS Biotechnology and BS Microbiology.
- ii. Domicile
 - a. For morning programs seats would be filled from Punjab and ICT, while for evening programs seats would be filled from all over Pakistan
 - b. There will be two seats reserved for the children of University employees
 - c. Other reserved quota seats in morning programs would be allocated as per university rules.

3. Admission Authority:-

The Director University Institute of Biochemistry & Biotechnology (UIBB) shall be responsible for admission to the programme.

AGE: A candidate must not be more than 23 years of age on 1st October of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

4. Minimum and Maximum Credit Hours:-

- i. Each student shall enroll himself/herself in the first and second semester for all the credit hours prescribed for these semesters.
- ii. Subsequently (except for 8th semester (he/she shall have to enroll for courses carrying not less than 12 and not more than 32 credit hours.

iii. In his/her sixth and seventh semesters, a student may enroll himself/herself for the course carrying the remaining credit hours: provided that maximum does not ordinarily exceed 34 credit hours: provided further that this limit may be extended by the Vice Chancellor up to 38 credit hours in 6th semester if no even semester course is left behind and similarly he/she may be allowed to enroll up-to 38 credit hours in 7th semester if no odd semester course is left behind. in special circumstances to be determined carefully in each individual case. The same will be applicable to the 10th, 11th & 12th semester.

iv. No course shall be offered during any semester, which does not fall within the "Scheme of Studies" in the respective semester.

4. Academic Standing:-

Grade Point Average

Maximum grade point average (GPA)	4.00
Minimum grade point average for obtaining Degree (CGPA)	2.50

To remain on the roll of the University a student shall required to maintain the following minimum CGPA in each semester:

Semester	CGPA
1 st	0.75
2 nd	1.00
3 rd	1.25
4 th	1.50
5 th	1.75
6 th	2.00
7 th	2.25
8 th	2.50

5. Explanation:-

- (i) A student who maintains the minimum GPA/CGPA for promotion and meets the requirements will be promoted to the next semester.
- (ii) A student who does not meet the above requirements may repeat the whole semester once only.
- (iii) If a student fails to achieve CGPA 2.50 in the 8th semester, he shall have to repeat the course/courses of lowest grade(s) to make CGPA of 2.50 within the maximum time allowed for the degree otherwise he/shall cease on the University roll.

M.Sc A minimum of four semesters and maximum of six semesters duration program after Bachelor's degree in the relevant subject. The degree is offered in Biochemistry.

Admission to the Course:-

A candidate seeking admission to the Course for the Degree of Master of Science in full and partial residence:

- (i) must have passed the Bachelor Degree Examination in aggregate with at least 50% marks from a recognized institution. Must have passed University Entrance Test. For admission in:
 - a. M.Sc Biochemistry: Any three subjects out of Zoology, Botany, Chemistry & Biochemistry are compulsory.
- (ii) the nominees of different departments/ organizations with minimum of 2nd division or its equivalent in Bachelor
- (iii) admissions in the Morning programmes are on all Punjab and Islamabad Capital Territory basis.
- (iv) admissions in the evening programme are open on all Pakistan basis.

Academic Standing:-

- (i) Grade Point Average
 - (a) Maximum grade point average: 4.00
 - (b) Minimum grade point average for obtaining Master's Degree: 2.50
- (ii) To remain on the roll of the University a student shall be required to maintain the following minimum GPA/ CGPA in each semester:

Semester	GPA/CGPA
1st	1.50
2nd	1.75
3rd	2.00
4th	2.50

- (iii) A student, who obtains CGPA of 2.00 or above but less than 2.50, upon the completion of entire approved course work or minimum residency, may be allowed to repeat the courses of the previous semesters in which he had obtained the lowest grades, in order to improve the CGPA so as to obtain the minimum of 2.50 within the maximum time allowed for the award of degree, failing which he/ she shall cease to be on the roll.
- (iv) A student will be required to repeat those courses of the previous semesters in which he / she had failed, at the first available opportunity, provided that his / her maximum workload, including the courses being repeated by him / her, will not exceed the normal workload.

Master of Philosophy (M.Phil):-

In Biochemistry and Biotechnology with a minimum of 4 and maximum of 6 semesters duration for full time student and a minimum of 6 and maximum of 8 semesters for part time students

ADMISSION TO THE COURSE:-

The candidate seeking admission to the course for the M.Phil Degree must have passed the M.Sc. Examination in aggregate with CGPA not less than 2.50 or with 50% of the marks secured under Annual Examination system or its equivalent in the field of study or related disciplines from HEC recognized institutions. Must have passed University Entrance Test.

ACADEMIC STANDING:

- (i) **Grade Point Average:**
 Maximum grade point average 4.00
 Minimum grade point average for obtaining M.Phil Degree 2.50
- (ii) To remain on the rolls of the University a student shall be required to maintain the following GPA/CGPA in each semester.
- (iii) A student, who obtains CGPA of 2.00 or above but less than 2.50, upon the completion of entire approved course work or minimum residency, may be allowed to repeat the courses of the previous semesters in which he/she had obtained the lowest grades in order to improve the CGPA so as to obtain the minimum of 2.50 within the maximum time allowed for the award of degree, failing which he/she shall cease to be on the roll.
- (iv) A student will be required to repeat those courses of the previous semesters in which he/she had failed at the first available opportunity, provided that his/her maximum workload, including the courses being repeated by him/her will not exceed the normal workload.

Semester	CGPA
1st	1.50
2nd	1.75
3rd	2.00
4th	2.50

Ph.D.

Ph.D. degree program in the disciplines of Biochemistry and Biotechnology with a minimum of six semesters duration and maximum 10 semesters duration. Residency period for part time student is minimum of 8 semesters.

Admission to Course:

A candidate seeking admission to the course for the Degree of Doctor of Philosophy in full and partial residence must:

- (i) have passed the M.Phil Degree Examination or an equivalent examination in 1st division or with CGPA 3.00 out of 4.00 from a recognized institution in a field of study related to the subject, he/ she desires to take up.
- (ii) meet all the requirements mentioned in these regulations.
- (iii) the applications of the candidates must be accompanied with a comprehensive research proposal that he/ she intends to undertake. The candidates will also be required to defend the proposal in an open seminar after admission before undertaking the research study.
- (iv) must have passed University Entrance Test with 70% marks.

ACADEMIC STANDING:

- (i) **Grade Point Average:** Grade points will be as follow:
 - a. Maximum grade point average 4.00
 - b. Minimum grade point average for obtaining the degree 3.00
- (ii) To remain on the rolls of the University a student shall be required to maintain the minimum CGPA of 3.00.
- (iii) A student who obtains CGPA less than 3.00 may be allowed to repeat once the courses of the previous semesters in which he/ she had failed.
- (iv) For admission to Ph.D programmes in Biochemistry, Botany and Zoology, minimum criteria will be followed as per HEC policy.

Scheme of studies for BS (Microbiology)

Semester-I

Course Code	Title of Course	Credit Hours
MIC-301	General Microbiology I	3(2-2)
MIC-302	Cell Biology-I	3(2-2)
MIC-303	Biochemistry-I	3(2-2)
ENG-301	Functional English	3(3-0)
MATH-303	General Mathematics	3(3-0)

Semester-II

Course Code	Title of Course	Credit Hours
MIC-304	General Microbiology-II	3(2-2)
MIC-305	Cell Biology II	3(2-2)
BCH-305	Molecular Biology	3(2-2)
CS-301	Introduction to Computing	3(2-2)
STAT-301	Statistics and Biometr v	3(3-0)
ECO-301	Introduction to economics	2(2-0)

Semester-III

Course Code	Title of Course	Credit Hours
MIC-401	General Microbiology-III	3(2-2)
MIC-402	General Virology	3(2-2)
MIC-403	Biochemistry-II	3(2-2)
MIC-404	Immunobiology	3(2-2)
ENG-302	Communication Skills	3(3-0)
IS/ET-401	Islamic studies / Ethics	2(2-0)

Semester-IV

Course Code	Title of Course	Credit Hours
MIC-405	Human Physiology-I	3(2-2)
MIC-406	Soil Microbiology	3(2-2)
MIC-407	Environmental Microbiology	2(2-0)
BCH-406	Fundamentals of Enzymology	3(2-2)
SOC-301	Introduction to Sociology	3(3-0)
SSH-301	Pakistan Studies	2(2-0)
SOS-301	Moral Foundations of Education	2(2-0)

Semester-V

Course Code	Title of Course	Credit Hours
MIC-501	Food preservation technology	2(2-0)
MIC-502	Medical microbiology	3(3-0)
MIC-503	Microbial Anatomy & Physiology	3(2-2)
MIC-504	Bio-Safety and Risk Management	3(3-0)
MIC-505	Human Physiology-II	3(2-2)
MIC-506	Microbial Taxonomy	3(2-2)

Semester-VI

Course Code	Title of Course	Credit Hours
MIC-507	Biotechnology	3(2-2)
MIC-508	Environmental Current Issues	3(3-0)
MIC-509	Fresh Water Microbiology	3(2-2)
MIC-510	Research Methodology	3(3-0)
MIC-511	Bacterial Genetics	3(2-2)
	Optional-I	3(*-*)

Semester-VII

Course Code	Title of Course	Credit Hours
MIC-601	Molecular Disease Diagnostics	3(3-0)
MIC-602	Epidemiology of infectious diseases	3(3-0)
MIC-603	Good Lab. Practices & Quality Control	2(2-0)
MIC-604	Mycology	3(2-2)
	Optional-II	3(*-*)
	Optional-III	3(*-*)

Semester-VIII

Course Code	Title of Course	Credit Hours
MIC-605	Current Trends in Microbiology	3(3-0)
MIC-606	Clinical Bacteriology	3(2-2)
MIC-607	Molecular Mechanisms of Antimicrobial Drugs	3(2-2)
	Optional-IV	3(*-*)
MIC-620	Seminar	1(1-0)
MIC-621	Research Project/ Internship	3(0-6)

Scheme of studies for BS (Biochemistry)

Semester-I

Course Code	Course Title	Credit Hours
BCH-301	Introductory Biochemistry	3(2-2)
BCH-302	Organic Chemistry	3(2-2)
BCH-303	Cell Biology	3(2-2)
ENG-301	Functional English	3(3-0)
SOS-301	Moral Foundations of Education	2(2-0)
MATH-303	General Mathematics	3(3-0)

Semester-II

Course Code	Course Title	Credit Hours
BCH-304	Inorganic Chemistry	3(2-2)
BCH-305	Molecular Biology	3(2-2)
BCH-306	General Microbiology	3(2-2)
BCH-307	Introduction to Bioenergetics	2(2-0)
CS-301	Introduction to Computing	3(2-2)
STAT-301	Statistics and Biometry	3(3-0)

Semester-III

Course Code	Course Title	Credit Hours
BCH-401	Nucleic Acids	2(2-0)
BCH-402	Amino Acids and Proteins	3(2-2)
BCH-403	Carbohydrates	3(2-2)
BCH-404	Lipids	3(3-0)
ENG-302	Communication Skills	3(3-0)
IS/ET-401	Islamic studies/Ethics	2(2-0)

Semester-IV

Course Code	Course Title	Credit Hours
BCH-405	Principles of Genetics	3(2-2)
BCH-406	Fundamentals of Enzymology	3(2-2)
BCH-407	Physical Chemistry	3(2-2)
BCH-408	Integrated Metabolism	2(2-0)
SSH-301	Pakistan Studies	2(2-0)
SOC-301	Introduction to Sociology	3(3-0)

Semester-V

Course Code	Course Title	Credit Hours
BCH-501	Genetic Engineering	3(2-2)
BCH-502	Protein Chemistry	2(2-0)
BOT-501	Plant Physiology	3(2-2)
BCH-503	Biochemical Techniques	3(1-4)
BCH-504	Biosafety and Ethics	2(2-0)
BCH-505	Bioinformatics	3(2-2)

Semester-VI

Course Code	Course Title	Credit Hours
BCH-506	Tissue and Cell Culture	3(2-2)
BCH-507	Biotechnology	3(2-2)
ZOOL-402	Human Physiology	3(3-0)
BCH-508	Cellular Signaling	3(3-0)
BCH-509	Biomembranes	2(2-0)
BCH-510	Plant Biochemistry	3(2-2)

Semester-VII

Course Code	Course Title	Credit Hours
BCH-601	Industrial Biochemistry	3(2-2)
BCH-602	Good Laboratory Practices & Quality Control	2(2-0)
BCH-604	Research Planning & Report Writing	3(1-4)
BCH-605	Nutritional Biochemistry	3(2-2)
	Optional-I	3(*-*)
	Optional-II	3(*-*)

Semester-VIII

Course Code	Course Title	Credit Hours
BCH-606	Immunology & Immunochemistry	3(3-0)
BCH-607	Current Trends in Biochemistry	3(3-0)
	Optional-III	3(*-*)
	Optional-IV	3(*-*)
BCH-620	Seminar	1(1-0)
BCH-621	Research Project/ Internship	3(0-6)

Scheme of studies for BS (Biotechnology)

Semester-I

Course Code	Course Title	Credit Hours
BIOT-301	Biochemistry-I	3(2-2)
BIOT-302	Cell Biology	3(2-2)
BCH-302	Organic Chemistry	3(2-2)
ENG-301	Functional English	3(3-0)
SSH-301	Pakistan Studies	2(2-0)
MATH-303	General Mathematics	3(3-0)

Semester-V

Course Code	Course Title	Credit Hours
BIOT-501	Biological Physics	3(3-0)
BIOT-502	Cell and Tissue Culture	3(2-2)
BIOT-503	Biosafety & Bioethics	2(2-0)
BIOT-504	Microbial Biotechnology	3(3-0)
BIOT-505	Environmental Biotechnology	3(3-0)
BIOT-506	Ecology, Biodiversity & Evolution-II	3(2-2)

Semester-II

Course Code	Course Title	Credit Hours
BIOT-303	Introduction to Biotechnology	3(3-0)
BIOT-304	Molecular Biology	3(2-2)
BIOT-305	Microbiology	3(2-2)
BCH-304	Inorganic Chemistry	3(2-2)
ENG-302	Communication Skills	3(3-0)
STAT-301	Statistics and Biometry	3(3-0)

Semester-VI

Course Code	Course Title	Credit Hours
BIOT-507	Virology and Immunology	3(3-0)
BIOT-508	Health Biotechnology	3(3-0)
BIOT-509	Industrial Biotechnology	3(3-0)
BIOT-510	Agriculture Biotechnology	3(2-2)
BIOT-511	Research Methodology & Skill Enhancement	3(2-2)
BIOT-520	Seminar-I	1(1-0)

Semester-III

Course Code	Course Title	Credit Hours
BIOT-401	Classical Genetics	3(3-0)
BIOT-402	Biochemistry-II	3(2-2)
BIOT-403	Ecology, Biodiversity & Evolution-I	3(3-0)
BCH-407	Physical Chemistry	3(3-0)
CS-301	Introduction to Computing	3(3-0)
IS/ET-401	Islamic Studies/Ethics	2(2-0)

Semester-VII

Course Code	Course Title	Credit Hours
BIOT-601	Food Biotechnology	3(3-0)
BIOT-602	Pharmaceutical Biotechnology	3(3-0)
BIOT-603	Animal Biotechnology	3(3-0)
BIOT-604	Genomics and Proteomics	3(3-0)
	Optional-I	3(*-*)
	Optional-II	3(*-*)

Semester-IV

Course Code	Course Title	Credit Hours
BIOT-404	Analytical Chemistry & Instrumentation	3(2-2)
BIOT-405	Genetic Engineering	3(2-2)
BIOT-406	Bioinformatics	3(1-4)
BIOT-407	Principles of Biochemical Engineering	2(2-0)
MGT-351	Introduction to Marketing	3(3-0)
ECON-301	Introduction to Economics	2(2-0)

Semester-VIII

Course Code	Course Title	Credit Hours
BIOT-605	Genetic Resources & Conservation	3(3-0)
BIOT-606	Computational Genomics	2(2-0)
BIOT-620	Seminar-II	1(0-0)
BIOT-621	Research Project/Internship/ Special Paper	3(0-6)
STAT-202	Biostatistics	3(2-2)
	Optional-III	3(*-*)

Scheme of studies for M.Sc. Biochemistry

S.No.	COURSE	TITLE OF COURSE	CREDITS
1	BCH-701	Biochemistry	3(2-2)
2	BCH-702	Bio-informatics	3(2-2)
3	BCH-703	Metabolism	3(2-2)
4	BCH-704	Molecular Biology	3(2-2)
5	BCH-705	Enzymology	3(2-2)
6	BCH-706	Tissue and Cell Culture	3(2-2)
7	BCH-707	Cellular Signaling Mechanism	3(3-0)
8	BCH-708	Human Physiology	3(2-2)
9	BCH-709	Biological Methods and Instrumentation	2(0-4)
10	BCH-710	Protein Chemistry	2(2-0)
11	BCH-711	Biomembranes	2(2-0)
12	BCH-712	Genetic Engineering	3(2-2)
13	BCH-713	Biotechnology	3(2-2)
14	BCH-720	Seminar-I	1(1-0)
15		Comprehensive Examination	P/F

OPTIONAL COURSES FOR M.Sc./M.Phil/Ph.D Biochemistry

S.No.	COURSE	TITLE OF COURSE	CREDITS
1	BCH-714	Clinical Biochemistry	3(1-4)
2	BCH-715	Medical Microbiology	3(2-2)
3	BCH-716	Nutrition and Dietetics	3(2-2)
4	BCH-718	Plant Biochemistry	3(3-0)
5	BCH-719	Special Problem	1(1-0)
6	BCH-720	Seminar-I	1(1-0)
7	BCH-720	Seminar-II	1(1-0)
8	BCH-721	Environmental Biochemistry	3(2-2)
9	BCH-722	Recent Topics in Molecular Biology	3(3-0)
10	BCH-723	Current Topics in Microbiology	3(3-0)
11	BCH-724	Fundamentals of Biotechnology	4(3-2)
12	BCH-725	Trends in Immunology	3(3-0)
13	BCH-726	Advanced Biochemistry	3(3-0)
14	BCH-727	General Microbiology	3(2-2)
15	BCH-728	Immunology and Immunochemistry	3(2-2)
16	BCH-731	Advances in Biochemistry	3(3-0)
17	BCH-732	Medical Nutrition Therapy	3(3-0)
18	BCH-733	Plant Molecular Physiology	3(3-0)
19	BCH-734	Numerical Problems in Biochemistry	3(3-0)
20	BCH-735	Principles of Advanced Biochemical Techniques	3(3-0)
21	BCH-736	Proteomics	3(3-0)
22	BCH-737	Cellular and Molecular Immunology	3(3-0)
23	BCH-751	Advances in Biotechnology	3(3-0)
24	BCH-799	Thesis	10(0-20)
25	BCH-799	Thesis	50(0-100)

SCHEME OF STUDIES FOR M.PHIL BIOTECHNOLOGY

S.No.	COURSE	TITLE OF COURSE	CREDITS
1	BIOT-701	Applications of Biotechnology	3(3-0)
2	BIOT-702	Advanced Recombinant DNA Technology	2(2-0)
3	BIOT-703	Techniques in Biotechnology	3(2-2)
4	BIOT-704	Cell and Tissue Culture	3(2-2)
5	BIOT-705	Advances in Plant Biotechnology	3(3-0)
6	BIOT-706	Health Biotechnology	3(3-0)
7	BIOT-707	Laboratory Practices and Bioethics	2(2-0)
8	BIOT-708	Bioinformatics	3(1-4)
9	BIOT-715	Fundamentals of Pharmacology	3(3-0)
10	BIOT-716	Molecular Bases of Human Genetic Diseases	3(3-0)
11	BIOT-719	Special Problem	1(1-0)
12	BIOT-720	Seminar - I	1(1-0)
13	BIOT-720	Seminar - II	1(1-0)
14	STAT-702	Biostatistical Analysis	3(3-0)
15		Minor/Optional Course	3(*-*)
16	BIOT-799	Research & Thesis	10(0-20)

SCHEME OF STUDIES FOR PH.D BIOTECHNOLOGY

S.No.	COURSE	TITLE OF COURSE	CREDITS
1	BIOT-720	Seminar - I	1(1-0)
2	BIOT-720	Seminar - II	1(1-0)
3	BCH-751	Advances in Biotechnology	3(3-0)
4	BIOT-799	Thesis	50(0-100)
5		Comprehensive Examination	P/F

Compulsory Courses:- In addition to the above courses, the students are required to take compulsory course:-

1. BOT-751 Integrated Biological Resource Management 3(3-0)
2. ZOOL-751 Project Planning, Monitoring and Evaluation 3(3-0)
3. STAT-711 Advanced Experimental Design with Data Processing 3(2-2)

SCHEDULE OF TEACHING

Fall Semester: October - February

Spring Semester: March - July

SUBMISSION OF APPLICATIONS

Applications on the prescribed forms for admission to the degree courses at the PMAS-Arid Agriculture University, Rawalpindi (as detailed below) complete in all respect, must be submitted either in person or by registered post in accordance with the notification by the University as follows:

S.#	NAME OF COURSE	APPLICATION TO BE SUBMITTED IN THE OFFICE OF
1	B.Sc. (Hons.) Agriculture	Dean, Faculty of Crop & Food Sciences
2	DVM	Dean, Faculty of Veterinary & Animal Sciences
3	BS (Forestry)	Dean, Faculty of Forestry & Range Management & Wildlife
4	B.Sc Agricultural Engineering	Dean, Faculty of Agricultural Engineering & Technology
5	BS (BCH & Economics)	Director, University Institute of Biochemistry & Biotechnology
6	BBA (Hons.)/BS (Commerce)	Director, University Institute of Management Sciences
7	BS (CS/SE & IT)	Director, University Institute of Information Technology
8	BS(Economics)/B. Ed	Dean, Faculty of Social Sciences
9	M.Sc. (Hons.) Agriculture	Dean, Faculty of Crop & Food Sciences
10	M.Phil	Dean, Faculty of Sciences/ Faculty of Forestry & Range Management & Wildlife
11	MCS, MS(CS)	Director, University Institute of Information Technology
12	MBA (all programmes), MS	Director, University Institute of Management Sciences
13	M.Ed/M.Sc (Edu.)	Dean, Faculty of Social Sciences
14	M.Phil (Education)	Dean, Faculty of Social Sciences

Note:

- i. No application shall be accepted after the due date even if dispatched by post.
- ii. Incomplete applications will be rejected without any prior notice.
- iii. All certificates and testimonials should be duly attested and attached as required. Candidate must write in the application form his/her name, father's name, date of birth **as given / spelled in the matric certificate**.
- iv. The candidate who had been a registered student of this University in the past must write his/her previous registration number allotted by the University.
- v. The candidates who did their prerequisite degrees from other Universities must submit their Migration Certificates from the respective universities (in original) otherwise they will not be considered for admission.
- vi. Number of seats in different programs: As approved by the Academic Council.



Admission of International Students

The credentials of an applicant who holds a foreign nationality and who wishes to attend the University are evaluated in accordance with the general regulations governing admission of foreign nationals as approved by the Ministry of Foreign Affairs and the Ministry of Education, Government of Pakistan. Candidates from foreign countries should send their applications through the Embassies of their countries in Islamabad, and these must be routed through the Ministries of Foreign Affairs and Education, Government of Pakistan. No foreign student will be admitted in the University unless his/her admission after due scrutiny of his / her application, is confirmed by the University.

Housing

The PMAS-AAUR has residential facilities for boys and girls on the campus. Housing and food services are available to about 40% of students' population. Residential facilities and related food services are normally organized and administered by students with proper guidance from the University administration.

Application for Housing

Students intending to live on campus have to apply on the application form. However, allocation of rooms in dormitories is made on the basis of space available and on merit basis.

Sanction of Leave

Leave to undergraduate students is sanctioned by the Tutor/Senior Tutor up to 7 days, and for period exceeding 7 days by the Dean/Director of the concerned Faculty, Institute, Division, on the recommendation of the Tutor/Senior Tutor. For postgraduate students the authority for sanction of leave is vested in the Chairman on the recommendation of the Supervisor concerned, for a period not exceeding 7 days and the Dean/Director on the recommendation of the Chairman exceeding this period. Sanction of leave, however, is at the discretion of the competent authority and is not counted towards the requirement of lecturer shortage. The University normally conforms to the schedule of holidays observed by the Government of the Punjab. The Vice Chancellor can grant holidays up to a maximum of six days in an academic year on special occasions.

Directorate of Students Affairs

The purpose of Director Students Affairs is to act as advisor of students, to consult and work with individual students and student groups. The Director also coordinates with other University offices to create a sense of community at the PMAS-AAUR. Assistance is available all the time during office hours and beyond that for some very urgent affairs. A few of the services available with the Directorate are:

Processing of applications for withdrawal from the University;

- / Consulting or problem solving for students;
- / Co-coordinating Conduct - Discipline action;
- / Hearing students grievances and appeals; and
- / Providing general information or assistance.

University Health Service

The PMAS-AAUR maintains a small health unit with a qualified Doctor-in-Charge and supporting para-medical staff. The service provides first aid and preliminary diagnostic facilities with appropriate medication. Plans are underway to expand this service in such a way that a test laboratory and X-ray facilities are provided.

Sports

Sports play an important role in the extra-curricular activities of the University, which maintains facilities for all major sports such as cricket, football, volleyball, basketball and track & field. The University Teams participate in various national and inter-varsity games.



Directorate of Quality Enhancement

Directorate of Quality Enhancement (DQE) was established at the university in 2007 with the objective of significant enhancement of quality in higher learning and international compatibility. The major functions of the DQE are to:

- Review quality standards and the quality of teaching and learning in each subject area.
- Promote public confidence that the quality and standards of the award of degrees are enhanced and safeguarded.
- Define lucid and explicit standards as points of reference to the reviews to be carried out. It should also help the employees to know as to what they could expect from candidates.
- Develop qualifications framework by setting out the attributes that can be expected from the holder of qualification.
- Develop quality assurance processes and methods of evaluation to affirm that the quality of provision and the standard of awards are being maintained and to foster curriculum, subject and staff development.
- Develop procedures for approval of new programs, monitoring and evaluation, departmental review, student feedback, employer feedback, quality assurance of various degree programs, subject review, and qualification framework.



ARID AGRICULTURE UNIVERSITY RESEARCH FARMS CHAKWAL ROAD

Agriculture is the backbone of Pakistan economy. More than 70% of population of the country is engaged in agro based enterprises for their livelihood. The increasing population and constant land use demands increased farm productivity to feed and fulfill the rising demands of rural community.

The existing acreage was neither sufficient to undertake the diversified research activities by increasing number of postgraduate students and faculty members, nor represents the Pothowar region. University authorities made vigorous effort to purchase a compact piece of land for research farm of an area of 188 Kanals at Mandra-Chakwal Road in tehsil Gujjar Khan, District Rawalpindi for On-Farm Research activities. The financial assistance of Higher Education Commission worth 343 million is greatly acknowledged who enabled to develop one administration block, two students hostels, one veterinary hospital, eight field laboratories for different disciplines, three glasshouses, one green house, one farming tunnel, one fish farm, two farm machinery sheds and number of staff residences. The **OBJECTIVE** of the farm are as below:-

The provision of better education, research, teaching and demonstration in general and agriculture in particular especially oriented to rainfed areas in particular.

To extend the faculty specialization in the field for the benefits of farming community by their higher knowledge and expertise.

To promote qualities of national integration, discipline, punctuality and hard work among the student community as well as faculty.

To establish and strengthened the research facilities of University and improve the research skills to address the problems of farming community and thus to contribute in the scientific advancement of agriculture in the country.

MISSION OF FARM: To produce graduates who are equipped with advanced practical knowledge of farm & farmers and can play their role in national economy.

VISION OF FARM: To improve the livelihood of resources poor farmers through skilled manpower.

The Farm is meant to address the intricate and complex nature of problems associated with farming community. It was absolutely necessary to consider needs, socio-economic and agro ecological conditions of resource poor farmers while addressing the ever emerging agriculture issues of farm. University on-farm research consider following steps to recommend the technologies to farming community.

Diagnosis of researchable issues based on review of secondary data

Planning and prioritization of researchable issues and to design on-farm experiments.

Conduct experiments under farmer's conditions to formulate improved technologies.

Based on the assessments, recommendations and demonstration.

Assessments by Farmers and Scientists.

UNIVERSITY SUB-CAMPUS KHUSHAB

Agricultural Potential and specific ecological conditions of the region led to the establishment of PMAS-AAUR Sub-Campus Khushab in 2007. Sub-Campus is situated 2 Km away in the west side of Khushab and 3 km in east side of Jauharabad. The renovation of Campus building was started in 2007 and further improvements are going on up till now. Four academic blocks for Veterinary Sciences, Agriculture, Dairy Technology and Management Sciences/Computer Sciences have been renovated. Currently, 500 students are on roll in various programs at Sub-campus Khushab. To start the Doctor of Veterinary Medicine (DVM), M.Phil and Ph.D degree programs a request for grant of 100 acres land situated at Livestock Experimental Station (LES), 8 Chak, Khushab has been initiated to Secretary, Livestock and Dairy Development Department (L&DDD), Punjab, which is under process. The Mission of the campus is to produce trained and skilled work force, having focus on innovation and entrepreneurship, capable of employing knowledge inputs for the rapid and sustainable agriculture and livestock developments of Pakistan.

The Campus is offering Master in Computer Science (MCS), BS (Hons.) Dairy Technology, F.Sc (Pre-Agriculture), Livestock Assistant Diploma (LAD). The Campus is working under the supervision of Project Director..

UNIVERSITY SUB-CAMPUS ATTOCK

Background Description

Establishment of new campuses is need of the day to cope up with the enrollment demands of the region, especially at district headquarter levels. With the vision to develop Barani agriculture and to improve the livelihoods of the small farmers in Pothwar region, honorable the then Vice Chancellor persuaded for the establishment of a sub-campus at Attock. With the aid of Punjab Government and sincere efforts by honorable Federal Minister for Parliamentary Affairs, Sheikh Aftab Ahmad, the university has succeeded in establishing a sub-campus at Attock district during the year 2014. Currently two degree programs are offered viz. F.Sc. (Pre-Agriculture) and B.Sc. (Hons.) Agriculture. The campus has successfully passed out two batches of F. Sc. (Pre-Agriculture), and has started specialization program for B. Sc. (Hons.) agriculture. A great appreciation has been achieved by local communities' hailing from different parts of the district for providing quality higher education at their door step.

INSTITUTE OF HYDROPONIC AGRICULTURE (IHA)

Hydroponics is a unique concept for Pakistan agriculture having several avenues where it can be used to successfully grow vegetables, salads, herbs, fruits, cut-flowers and grasses in the country without soil. The major advantages of hydroponics over soil culture are more efficient nutrition regulation, availability in regions having non-arable lands, efficient use of water and fertilizers, ease and low cost of sterilization of media and higher density planting thus leading to increased yields per acre. Hydroponics is the most appropriate alternative for poverty alleviation and food security to meet the future challenges in the agriculture sector.

Institute of Hydroponic Agriculture is working for promotion of hydroponics agriculture in Pakistan as a leading institute in hydroponic agriculture in South Asia. IHA has 13.5 acres of land with 5 acres automated greenhouses near Rawat, 30 km from Rawalpindi on Lahore Grand Trunk (GT) Road. Farmers Market a subsidiary of PMAS-AAUR started producing best quality disease and pesticide free hydroponics vegetables in 2009 from these greenhouses for local and global consumption. Average tomato productivity obtained in these greenhouses was 161.8 ± 6.6 ton per hectare as against about 10 ton per ha. in open field in Pakistan. The export intensity of the hydroponically grown products was calculated as 0.73 which is highest among all other goods. Major export products include Tomato on vine and Cherry tomato. Production of Bell pepper hardly matches local demand. The products were certified on ISO-9001:2008, ISO 22000: 2010 and Global GAP standards. These products have a very good market in the Middle Eastern countries and Europe. All the major consumer chain stores were the clients of FMP hydroponics products. Major export destinations include UAE, Bahrain, Qatar and KSA. Total export of hydroponics products by the University were worth US\$ 1.3million during 2009-13.

In 27 December 2016, University Syndicate in its 77th meeting approve establishment of Institute of Hydroponic Agriculture (IHA). The IHA developed 12 indigenous hydroponic replica units in different parts of Punjab Province.

Institute of Hydroponic Agriculture greatly signifies to impart a practical but full of knowledge training to farmers and students in addition to the various segments of community for better quality and higher yield perspective. IHA emphasis on:

-
- Arranging training programs for farmers, students and in-service staff
- Increase and diversify fruits and vegetable production technology
- To produce high yielding and better quality fruits and vegetables
- Preparing models for hydroponics vegetables for kitchen gardening

The Institute further emphasis on continuous supply of quality produce to cater the need of local, national and international market as per standard criterion. Degree programs and long duration (1-2 years) diplomas in hydroponics are also included in future targets. The Institute focuses on close collaboration with the international agencies/organizations/universities for sharing information related to research and teaching excellence apart from practical sharing of experience, knowledge and skill for the improvement of HydroponicAgriculture.

The Institute is hecically involved in the teaching of supporting courses (e.g. Introduction to Hydroponic Agriculture) to the classes of undergraduate programs in the Faculty of Crop & Food Sciences of this university. IA has conducted several training programs/sessions successfully for farmers with the specific objective of training and demonstration of Hydroponic Agriculture technology to the progressive farmers under ADP funded project entitled "Testing indigenous hydroponic greenhouses for vegetable growing at different locations in Punjab". The scheduled training programs as a part of Institute's calendar are still going on. Research related activities of students for M.Sc (Hons.) and Ph.D are also an important part of HA. Internship in batches from different institutes/departments especially coordinated with faculties of Agri. Universities is still another salient feature aiming of this Institute.



A number of visitors from national and international universities/institutes visit the state-of-the-art of Hydroponic system. The IHA is ever ready to provide advisory/consultancy (for national interest) to the progressive farmers, industrialists and for those who are interested to make the entrepreneurial career for new Agri. graduates. The future and prosperity of our country depend on the adaptation of the novel and competitive agro-based technologies that would ultimately lead to strength the economy and increasing the standard of our people. Hydroponics is the right answer. Let us peep into the window of opportunity.

Faculty of IHA

Dr. Arshad Mahmood Malik	Director
Ms. Ismara Naseem	Scientific Officer/Lecturer
Dr. Mehwish Liaqat	Scientific Officer
Mr. Nigah Hussain	Research Associate
Ms. Maria Fayyaz	Research Assistant

1. Evaluation:-

- (i) The minimum pass marks for each course shall be 40% for undergraduate and Master degree, PGD (CS) and PGD (IT) and 50% for Ph.D. in Theory & Practical Separately.

The marks / grade required to pass a deficiency course shall be the same as in the regulations relating to the Examination/ course concerned.

- (ii) **Grade points will be as follows:**

Marks Obtained	Grade	Grade Point	Remarks
80-100%	A	4	Excellent
65-79%	B	3	Good
50-64%	C	2	Satisfactory
40-49%	D	1	Pass
Below	F	0	Fail



- (iii) The grade point will be worked on the basis of percentage of marks obtained by a student in each course separately according to conversion table (Quality points table) and not on the percentage of total marks obtained by a student. One credit hour shall carry twenty marks.

2. Calculation of GPA/CGPA:-

- (i) GPA/CGPA will be calculated at the end of each semester in accordance to the following formula:

$$\text{GPA/CGPA} = \frac{\text{SUM OF QUALITY POINTS}}{\text{SUM OF THE CREDIT HOURS}}$$

- (ii) The quality points table given on the next page will be used for calculating the GPA/CGPA:

QUALITY POINTS TABLE FOR GPA / CGPA

5-Credits 100-Marks		4-Credits 80-Marks		3-Credits 60-Marks		2-Credits 40-Marks		1-Credit 20-Marks						
D	40	5.00	D	32	4.00	D	24	3.00	D	16	2.00	D	8	1.00
	41	5.50		33	4.40		25	3.60		17	2.60		9	1.50
	42	6.00		34	5.20		26	3.90		18	3.00	C	10	2.00
	43	6.50		35	5.60		27	4.50		19	3.60		11	2.30
	44	7.00		36	6.00		28	5.10	C	20	4.00		12	2.70
	45	7.50		37	6.40		29	5.40		21	4.40	B	13	3.00
	46	8.00		38	7.20	C	30	6.00		22	4.60		14	3.30
	47	8.50		39	7.60		31	6.30		23	5.00		15	3.70
	48	9.00	C	40	8.00		32	6.60		24	5.40	A	16	4.00
	49	9.50		41	8.40		33	6.90		25	5.60			
C	50	10.00		42	8.80		34	7.20	B	26	6.00			
	51	10.50		43	8.80		35	7.50		27	6.40			
	52	10.50		44	9.20		36	8.10		28	6.60			
	53	11.00		45	9.60		37	8.40		29	7.00			
	54	11.50		46	10.00		38	8.70		30	7.40			
	55	11.50		47	10.40	B	39	9.00		31	7.60			
	56	12.00		48	10.80		40	9.30	A	32	8.00			
	57	12.50		49	10.80		41	9.60						
	58	12.50		50	11.20		42	9.90						
	59	13.00		51	11.60		43	10.20						
	60	13.50	B	52	12.00		44	10.50						
	61	13.50		53	12.00		45	11.10						
	62	14.00		54	12.40		46	11.40						
	63	14.50		55	12.80		47	11.70						
	64	14.50		56	13.20	A	48	12.00						
B	65	15.00		57	13.60									
	66	15.50		58	14.00									
	67	15.50		59	14.40									
	68	16.00		60	14.80									
	69	16.50		61	14.80									
	70	16.50		62	15.20									
	71	17.00		63	15.60									
	72	17.50	A	64	16.00									
	73	17.50												
	74	18.00												
	75	18.50												
	76	18.50												
	77	19.00												
	78	19.50												
	79	19.50												
A	80	20.00												



3. Examination & Weightage:-

a) Theory:

In theory paper, student's evaluation shall be done by mid-term examination, assignment / quizzes / term paper & final examination. Both the mid-term & final examinations shall be compulsory; a student who misses the mid term examination, shall not be allowed a make-up examination & shall be awarded zero marks in that examination, however, may appear in the final examination. In case a student does not appear in the final examination of a course, he shall be deemed to have failed in that course.

In theory, weightage to each component of examination, shall be as prescribed here under:

(i) B. Sc (Hons.) Agriculture/BS (Economics)/ BS (Biochemistry)/ BS(Forestry)/ BS (Human Nutrition & Dietetics)/DVM/ B.Ed/ M.Sc (Hons.) Agriculture/ Poultry Science/ M.Phil/ MS (RS& GIS)/Ph.D Agriculture, Biological Sciences, Economics, Education, Forestry & Range Manag., Wildlife & Environ. Sciences.

Mid Examination	30 %
Assignments	10 %
Final Examination	60 %

(ii) Programmes of Study in UIMS, UIIT, BIIT, BIMS, AIMS, BIS, GIMS, BI-KAT

Mid Examination	30 %
Assignments	20 %
Final Examination	50 %

(iii) Programmes of Study in B.Sc Agricultural Engineering

Mid Examination	30 %
Assignments	10 %
Complex Engr. Problems CEP / Problem Based Learning (PBL)/Semester Project (SP) / Class Activity (CA) /Design Project (DP)	10 %
Final Examination	50 %

b). Practical:

For practical examination (if applicable) 100% weightage will be towards final examination.

4. Eligibility for Examination:

A student shall be eligible to sit for the examination provided that he /she:

- a. has been on the roll of the University during that semester.
- b. has registered himself / herself for the courses of studies.
- c. has attended not less than 75% of the classes in theory and practical / laboratory of each course. Provided that the period of absence in the case of participation in co-curricular / sports activities with the permission of the competent Authority concerned may not be counted.

5. Comprehensive Examination:

All students of Ph.D. Shall have to pass the comprehensive examination, after completion of entire approved Course-work, as per university rules.



a. Library

In any educational and research institution the Library department hold a key position being the major source of the inflow of knowledge. For this purpose, the library department incorporated 48912 books, textbooks, reference books, theses, periodicals and research journals, etc. Our Library is equipped with modern software package, LMS (Library Management System) for Library Automation.

The Library also extends facilities of photocopying service of different type of scientific papers. Moreover, departmental libraries have also been maintained to provide easy access to most of text and reference books as well at 1st and 2nd floors. The faculty and students are making the best use of these facilities in connection with their respective research projects, preparation of seminars, semester papers and technical material. It is further added that most of the facilities regarding online databases of full text and abstracting journals, which are being determined, subscribe for a modern library by the Higher Education Commission (HEC) under Digital Library program are available for the use of campus community.

b. Auditorium

The PMAS-AAUR has purposefully built fully air-conditioned auditorium which can accommodate around 500 participants. Various national and international level seminars and workshops are organized by inviting dignitaries and professionals of the field. The auditorium is equipped with modern audio / video facilities.

c. University Health Service

The PMAS-AAUR maintains a small health unit with a qualified Doctor Incharge and supporting paramedical staff. The service provides first aid and preliminary diagnostic facility with appropriate medication. Plans are under way to expand this service in such a way that a test laboratory, X-rays facilities, qualified Lady Doctor, Dental Surgeon are provided to students and faculty as well.

d. Sports and Extra-Curricular Activities

Sports play an important role in the extra curricular activities of the university, which maintains facilities for all major sports, such as cricket, football, volleyball, basketball, and other tracks. The university teams participate in various National and Inter varsity games, Keeping in view the importance of extra curricular activities, construction of a stadium in university is underway.

e. Accommodation Facility

The university extends accommodation facilities to male and female students. For this purpose, two boys hostels accommodating around 450 students and two girls hostels which can provide accommodation to around 225 female students are at the campus.

f. Cafeteria

Campus houses a purposefully erected cafeteria that caters the needs of students. It has ample space to organize student functions. University makes it sure that the food items served at cafeteria are fresh, nutritious as well as economical.

g. Transport Facility

Although University campus is located at an accessible place right at main Murree Road, transport facility is available for pick and drop facility and study tours of students.



FEE STRUCTURE 2021-22 ADMISSIONS

Discipline	FEE PAYABLE ONE TIME (Rs.)				FEE PAYABLE EACH SEMESTER (Rs.)					Total (A & B)
	Admission Fee	Security Fee	Donation to PRCS	Total (A)	Tuition Fee	University Fund	Other Fee (Comp/Lab/Med/Sports)	Examination Fee	Total (B)	
B.Sc(Hons) Agri./DVM/BS (Forestry)/B.Sc Ari. Eng./ B.Ed. (Hons.)/BS (Env. Sci.)/BS Geo Informatics (Session A)	9800	7900	50	17750	6200	4250	1050	3300	14800	32550
B.Sc(Hons) HND (Session A)	9800	7900	50	17750	14100	4250	1050	3300	22700	40450
B.Sc (Hons.) Agri./B.Ed (Hons.) Session B	8600	7900	50	16550	39900	4250	1050	3300	48500	65050
B.Sc (Hons.) HND Session B	8000	7900	50	15950	31300	4250	1050	3100	39700	55650
B.Sc (Agri. Eng)/DVM Session B	8000	7900	50	15950	72400	4250	1050	2700	80400	96350
M.Sc. Session A	9200	7900	100	17200	6100	6600	4800	3100	20600	37800
M.Sc.(Hons.)/M.Phil/M.Sc (Hons.) Food Safety/ HND/F.T (Session A)	10200	7900	100	18200	20200	6600	4800	3100	34700	52900
M.Sc./MS(RS&GIS)/ M. Phil Session B	11300	7900	100	19300	33200	6600	4800	3100	47700	67000
Ph.D	12300	7900	100	20300	26400	10400	4800	3100	44700	65000
BBA (Hons.)/ BS (Commerce)	15500	7900	50	23450	21200	5600	11700	3300	41800	65250
MBA	15500	7900	100	23500	35200	5600	15300	3300	59400	82900
BS(CS/IT/SE)	15500	7900	50	23450	33200	5600	10400	3300	52500	75950
MCS / MIT	15500	7900	100	23500	33200	5600	10400	3300	52500	76000
MS (CS/Mgt. Sci.) / Ph.D (CS / Mgt. Sci.)	15500	7900	100	23500	0	0	0	0	B	(A+B)
M.Ed.	9100	7900	100	17100	17900	4250	1050	3100	26300	43400
BS(Biochemistry/Microbiology)	9100	7900	50	17050	31100	4250	1050	3100	39500	56550
BS(Economics/Anthropology/Sociology)	9100	7900	50	17050	31100	4250	1050	3100	39500	56550
BS(Botany/Biology/Zoology/Math/Stat)	9100	7900	50	17050	31100	4250	1050	3100	39500	56550

MS (CS) / (Mgt. Sci.) / Ph.D (CS) / Mgt. Sci. Fee Payable each semester (B) will be charged on the basis of Credit Hours enrolled Rs. 6300/- will be charged for one Credit Hour (e.g. 9 credit hours fee will be Rs. 56700/- plus Rs. 800/- fee payable each semester. Rs. 50 will be charged from Ph.D Student as Baran charges in each semester

HOSTEL CHARGES

ONE TIME FEE			EACH SEMESTER		
Hostel Charges	Hostel Security Refundable	Total (A)	Hostel Charges	Total (B)	Total (A & B)
4,400	2,600	7,000	13,000	13,000	20,000

Summer Break Charges @ Rs. 4800/-

(applicable only to those boarders of Spring Semester who are allowed to stay during summer break)

The university fee is a mandatory charge received from the student at the time of first admission and then later on at the start of each semester. The payment of fee is an indication that the student is a regular student of university irrespective of the fact whether he/she is taking any course work or not. It entitles a student to such services as library, health, cafeteria, sports and overall campus life except the university hostel/housing. It is the responsibility of the student to pay the university fee and hostel dues at the start of each semester according to the time schedule announced by the Treasurer Office. The fee has to be paid in the bank on the bank challan duly endorsed by the Treasurer office.

1.Fee for Foreign Students:-

B.Sc.(Hons) Agriculture/DVM/BS(Forestry)	US\$ 1085	M.Ed.	US\$ 1085
BBA (Hons)	US\$ 2115	MS (CS)	US\$ 1990
BS(CS), BS(IT)	US\$ 1990	MBA(All Programmes)	US\$ 1990
M.Sc./M.Sc.(Hons.) Agriculture/Poultry Science/M.Phil.	US\$ 1085	Ph.D. (Agriculture / Sciences)	US\$ 2115
MCS	US\$ 1990	MIT	US\$ 1990

Other Charges

(Applicable in all the programmes and for all students)

Late Enrollment Fee	(Rs.)
Upto 3 days	1500
Upto 4 to 7 days	2900

Enrollment fee after minimum residency period

M.Sc./M.Phil/MS	4900
Ph.D	9900
Degree Fee	3500
Duplicate Degree Fee	10000
Urgent Degree Fee	12000
Deposited Fee Certificate	200
Diploma Fee	2200
Duplicate Diploma Fee	2900

Transcript (DMC) Fee Per Semester

(i) Within one Week	350
(ii) Within one day (urgent)	600
(iii) Recounting of Answer Book Per Course	3000

Provisional Certificate Fee

(i) Within one Week	450
(ii) Within one day (urgent)	1000

Duplicate Registration Card Fee	450
Duplicate ID card Fee	600
Migration Certificate Fee	2200
Duplicate Migration Certificate Fee	4400
Employees/Employees Kids Fee	
Children Employee BS-1 to 15	Subsidized fee of Rs.2300 per semester alongwith one time University security (refundable)
Children Employee BS-16 & above	Subsidized fee of Rs.5700 per semester alongwith University securities (refundable)
University Employees BS-1 to 15 (Only once in service)	Subsidized fee of Rs.2900 per semester alongwith University securities (refundable)
University Employees BS-16 & above (Only once in service)	Subsidized fee of Rs.5700 per semester alongwith University securities (refundable)
Verification fee for each of: Degree, Diploma, Certificate and Transcript (DMC) (original document)	
(i) From Pakistan	1000
(ii) From Abroad	(US\$) 13
Except Government Departments and Armed Forces of Pakistan	
Verification fee for each of: Degree, Diploma, Certificate and Transcript (DMC) Photocopy (Per Copy)/ (per document)	200
Hostel Security	2600

Per Course Enrollment Fee

If a student has completed minimum residency period after that enrolls for failed/extra courses would be charged.

As per the following rates for each course enrolled:-

(a)	Regular Students	(Rs.)
	Postgraduate	2300
	Undergraduate	2000
	Ph.D	3200
(b)	Self Supporting Students	
	Postgraduate	8600
	Undergraduate	4900
(c)	If credit hours load of the extra enrolled subjects increases to 70% of the semester, Full semester fee will be charged.	



Refund of Fee

1. If a freshly admitted student leaves the university and requests in writing to withdraw his/her fee the securities will be refunded in full, whereas, only the tuition fee will be refundable as per the following policy.
 - i. Full (100%) fee refund upto 7th day of convene of classes as announced by the University.
 - ii. Half (50%) fee refund from 8th - 15th day of convene of classes as announced by the University.
 - iii. No fee (0%) fee refund from 16th day of convene of classes as announced by the University.
2. Refund of Fee and other charges can be made to a continuing student only if all the courses for which he / she was enrolled are not offered by the Department concerned or the university considers the student to be ineligible for enrolment in a semester.
3. Refund of hostel charges can be made on the written request of the student as per following policy;
 - i 75 % refund if a student applies within 7 days of the allotment of the hostel as announced by the university.
 - ii 50% refund within two weeks (14 days) of allotment.
 - iii. No refund after two weeks (14 days).
4. Refund of fee will be made after two weeks of completion of admissions.
5. Refund of security will be made by the Treasurer office to the eligible students (notified as successful by the Controller of Examinations) on the written request along with the clearance issued by heads of respective departments. The claim to refund will be valid for a period of six months after passing the programme/course.
6. Semester late fee after due dates as notified by the Treasurer Office, will be made on written application by the student after recommendation of their respective Deans/ Directors.

DIRECTORATE OF FINANCIAL ASSISTANCE AND UNIVERSITY ADVANCEMENT

Vision

Wannable to make Directorate of Financial Assistance and University Advancement as “Resource, Consultation and Placement Hub” catering the economic and non-economic needs of its graduate during and after their academic life.

Objectives

1. Scholarship & Financial Assistance Management

- a. Management & Implementation of following Scholarship programs:-
 - i. Punjab Educational Endowment Fund Scholarship (PEEF)
 - ii. The Vice Chancellor Talent Scholarship
 - iii. HEC Needs Based Scholarship Program
 - iv. Educational Assistance from Pakistan Bait-ul-Mal
 - v. Prime Minister Tuition Fee Reimbursement Program for PhD Students
 - vi. Kamran Educational Foundation Scholarship
 - vii. HEC Indigenous Scholarship for PhD Students
 - viii. FATA Secretariat Scholarship
 - ix. Livestock & Dairy Development Scholarship for Students of Balochistan
 - x. Diya Pakistan Scholarship
 - xi. Dr. Sadiq Foundation Scholarship
 - xii. Pakistan Scottish Scholarship Program
 - xiii. Gurmani Foundation Scholarship Program
 - xiv. Bestway Foundation Scholarship
 - xv. Fauji Foundation Scholarship Program
 - xvi. EHSAAS Under Graduate Scholarship
 - Xvii. National Endowment Scholarship for Talent (NEST)
- b. Liaison with donor agencies for students’ scholarships, financial assistance, loans etc.
- c. Financial Management of the above mentioned scholarship programs and timely disbursement of funds.
- d. Monitoring of the academic performance of all scholarship awardees.
- e. Correspondence regarding Fund Utilization, Academic Progress Report & Other matters with the Higher Education Commission of Pakistan and Punjab Education Endowment Fund Secretariat & other scholarship issuance agencies.

2. Career Development Services (CDC) & Students Counseling

- i. Develop linkages among prospective employers and students/graduates.

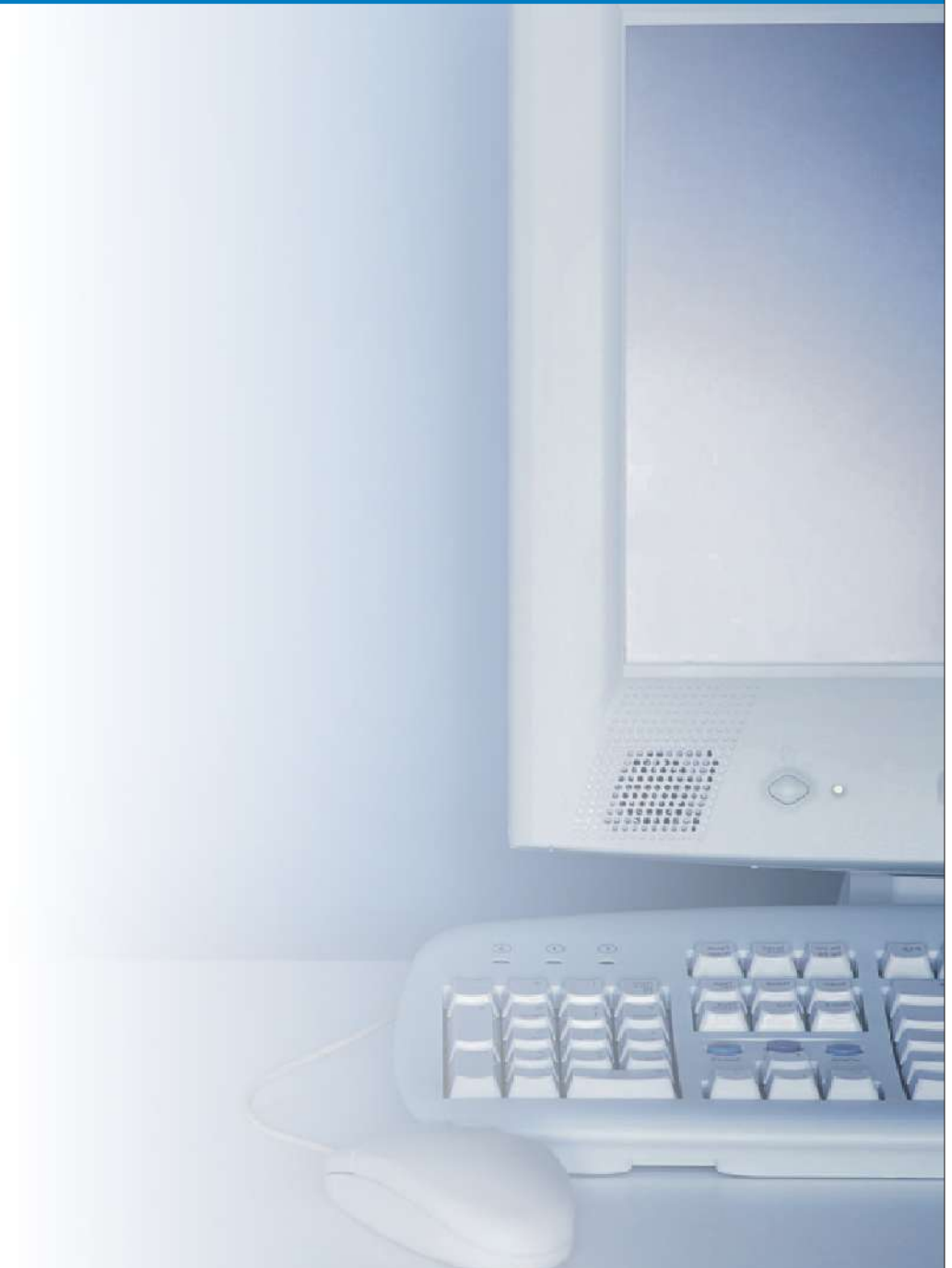
- iii. Arrange Pre-selection of students (who are about to complete their studies) by arranging get together, seminars, workshops, exhibitions, job fairs etc. with Prospective employers.
 - iv. To arrange job test & interview for different organizations on cost free basis.
3. **Alumni Database:**
- i. Compilation of graduates database according to their subjects, sharing and dissemination of news about employment opportunities/ scholarships and on campus events.



UNIVERSITY CONTACT NUMBERS:

NAME OF THE FACULTY/INSTITUTE WITH CONTACT NUMBER

Faculty of Crop and Food Sciences	051-9292108
Faculty of Forestry, Range Management & Wildlife	051-9292110
Faculty of Veterinary and Animal Sciences	051-9292144
Faculty of Agricultural Engineering & Technology	051-9292163
Faculty of Sciences	051-9292176
Faculty of Social Sciences	051-9292138
University Institute of Information Technology	051-9292195
University Institute of Management Sciences	051-9292196-97
University Institute of Biochemistry and Biotechnology	051-9292152
Institute of Geo-Information & Earth Observation	051-9292199
Institute of Food & Nutritional Sciences	051-9292148
Institute of Soil Science	051-9292162
University Sub-Campus Khushab	0454-713867 0454-713869
University Sub-Campus Attock	057-9316244





University Research Farm, Koont



PIR MEHR ALI SHAH

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