



Pir Mehr Ali Shah Arid Agriculture University Rawalpindi

Prospectus
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Sardar Saleem Haider Khan
Governor of the Punjab/Chancellor



Prof. Dr. Qamar-uz-Zaman
Vice-Chancellor

DISCLAIMER

The Statutory Bodies of Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi reserve the right to revise, update, modify or amend any information, data, rules, regulations and policies contained in this Prospectus at any time without prior notice. Such changes shall be effective as and when approved by the competent authorities of the University.

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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 Agriculture, Faculty of Sciences, Faculty of Veterinary and Animal Sciences, Faculty of Agricultural Engineering & Technology, Faculty of Social Sciences, Institute of Nutrition & Food Sciences, Institute of Animal 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 and Environmental Sciences (IS&ES), Institute of Animal Sciences (IAS), 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, 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 76% 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
P.S to the Vice Chancellor
Deputy Registrar

Prof. Dr. Qamar-uz-Zaman
Mr. Sultan Sabaktageen Nasir
Mr. Mustafa

OFFICE OF THE REGISTRAR

Registrar
Deputy Registrars

Assistant Registrars

Mr. Muhammad Aqeel Sultan
Dr. Temoor Anjum
Mr. Zahid Mahmood
Mirza Haseeb Baig
Mr. Sultan Sabaktageen Nasir
Mr. Muhammad Shabbir
Mr. Muhammad Amjad Khan
Ms. Masoomah Zainab



OFFICE OF THE TREASURER

Treasurer

Director Finance

Deputy Registrars

Ms. Marriyam Haider Bokhari

Syeda Iram Umer

Raja Afzaal Mehdi

Dr. Mohsan Iqbal

Mr. Muhammad Asad

Mr. Shahbaz Tufail

Mr. Muhammad Irfan Anwer Khan

Assistant Registrars

Mr. Zaeem Amjad Gadhok

Mr. Muhammad Waqas Farooq

Ms. Rida Akhlaq

Mr. Haroon Akbar

Mr. Ali Nasir

Resident Auditor

Assistant Registrar

OFFICE OF THE CONTROLLER OF EXAMINATIONS

Controller of Examinations

Deputy Registrar

Assistant Registrars

Dr. Shahbaz Ahmad Khan

Ms. Asma Safdar

Mr. Hamza Fiaz

Mr. Muhammad Imran Khurram

DIRECTORATE OF RESEARCH INNOVATION & COMMERCIALIZATION

Director

Additional Director (Research Operations)

Additional Director (Business Incubation)

Additional Director (Industrial Linkages)

Assistant Director

Assistant Registrar

Dr. Asim Gulzar

Dr. Shahid Ali Khan

Mr. Muhammad Ishaq

Dr. Rai Muhammad Amir

Dr. Bushra Allah Rakha

Ms. Sara Anwer



DIRECTORATE OF PLANNING AND DEVELOPMENT

Director	Dr. Muhammad Kamran
Deputy Registrar	Mr. Fazeel Sultan

DIRECTORATE OF FINANCIAL ASSISTANCE & UNIVERSITY ADVANCEMENT

Director	Ch. Waqas Ahmed
Assistant Registrars	Mian Muhammad Aneeq
	Mehr Altaf Hussain

DIRECTORATE OF ADVANCED STUDIES

Director	Dr. Muhammad Naveed Tahir
Deputy Director	Dr. Kanza Gulzar
Deputy Registrar	Sheikh Naveed Akram
Assistant Directors	Mr. Muhammad Adnan Riaz
	Dr. Nasir Ali

DIRECTORATE OF PUBLIC RELATIONS & PUBLICATIONS

Principal Officer (PRP)	Dr. Nadeem Ahamd Malik
Public Relations Officer	Mr. Muhammad Musa Kalim

DIRECTORATE OF PROCUREMENT AND INVENTORY CONTROL

Director	Dr. Waris Ali
Deputy Registrars	Mr. Fazeel Sultan
	Mr. Muhammad Saif Ullah
Assistant Registrars	Mr. Touqeer Ahmad Khan
	Ms. Maryam Arif

DIRECTORATE OF QUALITY ENHANCEMENT

Director
Additional Director
Deputy Registrar
Assistant Registrars

Prof. Dr. Muhammad Javaid Asad
Dr. Aayesha Riaz
Mr. Zeeshan Ahmad Khan
Ms. Sadaf Bashir
Mr. Saad Ahmed Mir
Mr. Aqeel Khurram

DIRECTORATE OF WORKS

Principal Officer
Executive Engineer
Deputy Director
Assistant Engineer
Sub Divisional Officer

Dr M Jehanzeb Cheema
Mr. Asim Gulzar
Mr. Ather Mehmood
Mr. Ahmad Saeed Awan
Mr. Sajid Abbas

DIRECTORATE OF SPORTS

Chairman
Director
Incharge Sports

Prof. Dr. Yaser Hafeez
M. Zahid Qamar Khan
Dr. Evelyn Saba

DIRECTORATE OF IT SERVICES

Director
System Administrator
Network Administrator
Database Administrator
Software Developers

Dr. Nadeem Ahmad Malik
Mr. Muhammad Safdar Abbas
Mr. Shahzad Ashraf
Mr. Majid Tahir
Dr. Zahida Shaheen
Ms. Ghazala Rasheed



STUDENT AFFAIRS, HALL WARDEN & SENIOR TUTOR

Principal Officer Student Affairs
Director Student Affairs
Hostel Warden (Boys)
Hostel Warden (Girls)
Senior Tutor

Prof. Dr. Ghulam Hussain
Dr. Muhammad Arif Zafar
Prof. Dr. Muhammad Hanif
Dr. Saima Asad
Dr. Badar Naseem Siddiqui

ESTATE CARE AND SECURITY OFFICE

Principal Officer
Assistant Registrar (Security)
Assistant Registrar (Estate Care)

Dr. Malik Kashif Mehmood
Rana Qammar Uz Zaman
Mr. Muhammad Sohail Farooq

UNIVERSITY MEDICAL CENTER

Senior Medical Officer
Medical Officer (M)
Medical Officer (F)

Dr. Rizwan Mahmood Raja
Dr. Saqib Hasnain Saqi
Dr. Sofia Nadeem

DIRECTOR ACADEMICS/ADMISSION

Director
Additional Director Academics
Deputy Director Academics
Incharge Admission Office

Dr. Gulshan Irshad
Dr. Malik Kashif Mehmood
Dr. Ismara Naseem
Ms. Shahida Yousaf

TRANSPORT SECTION

Principal Officer (Transport)

Dr. Tahir Iqbal

Faculties/Institutes

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

-  Faculty of Agriculture
-  Faculty of Agricultural Engineering and Technology
-  Faculty of Sciences
-  Faculty of Social Sciences
-  Faculty of Veterinary and Animal Sciences
-  University Institute of Biochemistry and Biotechnology
-  University Institute of Information Technology
-  University Institute of Management Sciences
-  Institute of Animal Sciences
-  Institute of Food and Nutritional Sciences
-  Institute of Geo-Information & Earth Observation
-  Institute of Hydroponic Agriculture
-  Institute of Soil and Environmental Sciences

Faculty of Agriculture

Dean of the Faculty

Dr. Muhammad Azam khan



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 twelve disciplines including Agricultural Economics, Agricultural Extension, Agronomy, Entomology, Food Technology, Horticulture, Hydroponics, Seed Sciences, Plant Breeding & Genetics, Plant Pathology, Precision Agriculture & 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.

i. Department of Agronomy:

Chairman

Associate Professor

Assistant Professors

Dr. Ghulam Qadir

Dr. Muhammad Naveed Tahir

Dr. Zuhair Hasnain

Dr. Abdul Manaf

Dr. Mukhtar Ahmad

Dr. Imran Mahmood

Dr. Ghulam Abbas Shah

Dr. Muhammad Rizwan

Dr. Shahbaz Atta Tung

Dr. Muhammad Amjid

Lecturer



ii. Department of Plant Breeding and Genetics:

Chairman
Associate Professor
Assistant Professors

Prof. Dr. Zahid Akram
Dr. Mahmood-ul-Hassan
Dr. Talat Mahmood
Dr. Munir Ahmad
Dr. Saad Imran Malik
Dr. Rashid Mehmood
Dr. Fahad Masoud Wattoo
Dr. Reena Rani



iii. Department of Plant Pathology:

Chairman
Associate Professors

Assistant Professors

Dr. Abid Riaz
Dr. Gulshan Irshad
Dr. Farah Naz
Mr. Muhammad Usman Raja
Dr. Abdul Qadir
Dr. Sajid Mehmood

iv. Department of Entomology:

Chairman
Associate Professors

Assistant Professor

Dr. Munir Ahmad
Dr. Muhammad Tariq
Dr. Asim Gulzar
Dr. Muhammad Asif Aziz
Dr. Farid Asif Shaheen
Dr. Imran Bodlah



v. Department of Horticulture:

Chairman	Dr. Imran Hassan
Professor	Dr. Muhammad Azam Khan
Associate Professor	Dr. Touqeer Ahmed
Assistant Professors	Dr. Umer Habib
	Dr. Irfan Ali
	Dr. Usman Ali Abbasi
	Dr. Muhammad Tahir Akram
	Dr. Naveed ur Rehman
	Dr. Mehwish Liaquat
	Dr. Tanveer Hussain
Lecturer	Dr. Usman Shoukat Qureshi

vi. Department OF Forestry & Range Management:

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

vii. Department of Agricultural Extension:

Chairman	Dr. Badar Naseem Siddiqui
Associate Professor	Dr. Aneela Afzal
Assistant Professor	Dr. Faheem Khan
Lecturers	Dr. Muhammad Ali
	Mr. Waqar Ul Hassan Tareen
	Mr. Muhammad Rameez Akram Khan
	Mr. Hasan Rashid



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:

Minimum Academic Requirements:

A candidate holding F.Sc (Pre-Medical/Pre-Engineering) from any recognized Institution with minimum 45% marks or F.Sc (Pre-Agriculture) with CGPA of at least 2.50/4.00 or equivalent certificate from any recognized Institution with minimum 45% marks will be eligible for admission to B.Sc.(Hons.) Agriculture.

OR

A person working as Field Assistant/Agriculture Inspector on regular basis with minimum three-year 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.

Domicile

Reserved Seats

- The candidates domiciled in the Barani Areas of Punjab shall only be eligible for admission other than the special quota.
- 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 area candidates separately.
- Nominee from each province, FATA, Gilgit-Baltistan, Azad Jammu & Kashmir, Army, Air Force, Special/differently abled persons will have their own merit separately.

Distribution of Seats for B.Sc. (Hons.) Agriculture Morning Program

CATEGORY	NUMBER OF SEATS		
	URBAN	RURAL	TOTAL
1. District wise quota from Punjab			
Open Merit (throughout the Punjab only)	-	-	70
Rawalpindi	10	40	50
Attock	2	6	8
Jhelum	2	6	8
Chakwal	2	6	8
Gujrat	2	2	4
Mandi Bahauddin	2	2	4
Sialkot (Excluding Tehsil Daska)	2	2	4
Narowal	2	6	8
Mianwali	2	6	8
Dera Ghazi Khan	2	6	8
Muzaffargarh (Tehsil Muzaffargarh and Kot Addu only)	2	6	8
Jhang (Tehsil Jhang and Shorkot)	2	6	8
Layyah	2	6	8
Khushab	2	6	8
Bhakar	2	6	8
Rajanpur	2	6	8
Cholistan	2	4	6
2. Open Merit quota outside the Punjab		35	
3.Provincial Quota			
Sindh Province	-	-	4

Balochistan Province	-	-	6
Khyber Pakhtunkhwa	-	-	4
F.A.T.A.	-	-	10
Azad Jammu & Kashmir	-	-	6
Gilgit-Baltistan	-	-	10
Islamabad	2	4	6
3. Other Reserved Seats			
Pakistan Army	-	-	5
Pakistan Air Force	-	-	2
Foreign Students	-	-	4
Children's of University Employees	-	-	5
Filed Assistants/Agriculture Inspector	-	-	8
Three years Field Assistant Diploma Holder from Sub Campus Khushab	-	-	10
Special/Differently abled Persons	-	-	6
Agri. Graduate Siblings (Son & Daughter)			5
4. Evening Program (Self Finance Basis)	-	-	140
Total	-	-	500

Academic Standing

Grade Point Average

Maximum Grade Point Average (GPA)	4.00
Minimum Grade Point Average for obtaining the degree (CGPA)	2.50

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	2.25
8th	2.50

Explanation:

- A student who maintains the minimum GPA/CGPA for promotion and meets the requirements will be promoted to the next semester.
- A student who does not meet the above requirements may repeat the whole semester once only.
- 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.Sc. (Hons.) Agriculture/M.Phil (Forestry & Range Management)

A minimum of four semesters duration programme after B.Sc. (Hons.) Agriculture in respective disciplines such as Agricultural Extension, Agronomy, Entomology, Plant Breeding & Genetics, Plant Pathology, Horticulture and Forestry for M.Phil (Forestry & Range Management).

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's 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 have passed University Entrance Test.

Academic Standing:

Grade Point Average

Maximum Grade Point Average (GPA)	4.00
Minimum Grade Point Average for obtaining the degree (CGPA)	2.50

1. 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	1.50
2nd	1.75
3rd	2.00
4th	2.50

2. 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.
3. 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. Agriculture degree program in the disciplines of Agronomy, Entomology, Food Technology, Soil Science, Horticulture, Plant Pathology, Plant Breeding & Genetics and Forestry & Range Management after M.Sc. (Hons.)/ M.Phil Agriculture in the relevant discipline, a minimum of six semesters duration.

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.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.
- ii. Meet all the requirements mentioned in these regulations.
- iii. 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.
- iv. Must have passed University Entrance Test with 70% marks.

ACADEMIC STANDING:

Grade Point Average: Grade point will be as follows:

- i. 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 a 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	CREDIT HOURS	
AEC-301	Principles of Agricultural Economics	3	(3-0)
AGR-301	Basic Agriculture	2	(1-2)
ENG-301	Functional English	3	(3-0)
HORT-301	Introductory Horticulture	2	(1-2)
SSH-301	Civic and Community Engagement	2	(2-0)
SOS-301	Moral Foundation of Education	2	(2-0)
AS-301	Animal Husbandry	3	(2-2)
SS-301	Introduction to Soil Science	3	(2-2)
BIO-301	Biology (Deficiency)	3	(2-2)
SOS-301	Seerat Studies	2	(2-0)
TOQ-301	Translation of Quran-I (Audit)	1	(1-0)
	TOTAL	22	
SEMESTER - II			
COURSE	TITLE OF COURSE	CREDIT HOURS	
AGR-302	Field Crop Production	2	(1-2)
ENG-302	Expository Writing	3	(3-0)
SOC-302	Introduction to Sociology	2	(2-0)
SSH-302	Ideology and Constitution of Pakistan	2	(2-0)
FT-302	Introduction to Food Science	2	(2-0)
FR-302	Introduction to Forest and Range Management	3	(2-2)
IS-302	Islamic Studies and Ethics	2	(2-0)
CSC-302	Application of Information and Communication Technologies	3	(2-2)

AEN-302	Farm Mechanization & Water Conservation Engineering	2	(1-2)
TOQ-302	Translation of Quran-II		Audit
	TOTAL	21	
SEMESTER - III			
COURSE	TITLE OF COURSE	CREDIT HOURS	
AE-401	Introduction to Agricultural Extension	2	(2-0)
AEN-401	Introduction to Precision Agriculture Technologies	2	(1-2)
ENT-401	Introductory Entomology	2	(1-2)
FT-401	Food Processing and Preservation	2	(1-2)
MGT-401	Entrepreneurship	2	(2-0)
PBG-401	Introductory Genetics	2	(1-2)
HA-401	Introduction to Hydroponic Agriculture	2	(1-2)
PP-401	Introductory Plant Pathogens	2	(1-2)
QR-401	Quantitative Reasoning-I	3	(3-0)
SST-401	Introductory Seed Science and Technology	2	(2-0)
TOQ-401	Translation of Quran-III		Audit
	TOTAL	21	
SEMESTER - IV			
COURSE	TITLE OF COURSE	CREDIT HOURS	
ENT-402	Applied Entomology	2	(1-2)
HORT-402	Horticultural Crop Production	2	(1-2)
STAT-402	Experimental Design	3	(2-2)
PBG-402	Introductory Plant Breeding	2	(1-2)
SS-402	Soil Fertility and Fertilizer Use	2	(2-0)
AE-402	Introduction to Communication in Agricultural Extension	2	(1-2)
PP-402	Introductory Plant Pathology	2	(1-2)
QR-402	Quantitative Reasoning-II	3	(3-0)
AGR-402	Rainfed Agriculture	2	(1-2)
TOQ-402	Translation of Quran IV		Audit
	TOTAL	20	

1. B.Sc. (HONS.) AGRICULTURE (AGRONOMY)

Semester-V		
Code	Course Title	Credit Hours
AGR-501	Field Crop Physiology	3(2-2)
AGR-503	Agro Technology of Major Crops	3(2-2)
AGR-505	Seed Production Technology	3(2-2)
AGR-507	Environment and Crop Production	3(2-2)
AGR-509	Principles of Agronomy	3(2-2)
AGR-511	Integrated Farming Systems for Sustainable Agriculture	3(2-2)
TOTAL		18

Semester-VI		
Code	Course Title	Credit Hours
AGR-504	Plant Nutrients and Growth Regulators	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	3(2-2)
AGR-512	Conservation Agronomy	3(2-2)
AGR-514	Farming System and Record Management	3(2-2)
TOTAL		18

Semester -VII		
Code	Course Title	Credit Hours
AGR-601	Water Management in Rainfed Areas	3(2-2)
AGR-603	Biological Nitrogen Fixation	3(2-2)
AGR-605	Agro Ecology	3(3-0)
AGR-607	Crop Management under Stressful Environments	3(2-2)
AGR-609	Crop Modelling	3(2-2)
AGR-615	Agro Entrepreneurship	3(2-2)
	TOTAL	18

Semester -VIII		
Code	Course Title	Credit Hours
AGR-608	Internship	3(0-6)
AGR-610	Capstone Project	3(0-6)
	TOTAL	6

2. B.Sc. (HONS.) AGRICULTURE (AGRICULTURAL EXTENSION)

Semester-V		
Code	Course Title	Credit Hours
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	Adult Learning	3(3-0)
	TOTAL	18

Semester-VI		
Code	Course Title	Credit Hours
AE-502	Agricultural Journalism	3(2-2)
AE-504	Extension Programme Development	3(2-2)
AE-506	Rural Youth in Agricultural Development	3(2-2)
AE-508	Poverty Alleviation and Sustainable Development	3(3-0)
AE-510	Biodiversity and Agricultural Extension	3(3-0)
AE-512	Introduction to Programme Evaluation	3(2-2)
	TOTAL	18

Semester-VII		
Code	Course Title	Credit Hours
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)
	TOTAL	18

Semester-VIII		
Code	Course Title	Credit Hours
AE-608	Internship	3(0-6)
AE-610	Capstone Project	3(0-6)
	TOTAL	6

3. B.Sc. (HONS.) AGRICULTURE (AGRICULTURAL ECONOMICS)

Semester-V		
Code	Course Title	Credit Hours
AEC-501	Microeconomics-I	3(2-2)
AEC-503	Macroeconomics-I	3(2-2)
AEC-505	Islamic Economics	3(3-0)
AEC-507	Elementary Calculus	3(3-0)
AEC-509	Natural Resource Economics	3(2-2)
AEC-511	Econometrics-I	3(3-0)
AEC-513	Rural Development	3(3-0)
	TOTAL	18

Semester-VI		
Code	Course Title	Credit Hours
AEC-601	Principles of Agricultural Marketing	3(0-6)
AEC-603	Introduction to Research Methods	3(3-0)
AEC-605	Economics of Livestock Production	3(3-0)
AEC-607	Project Planning & Evaluation	3(3-0)
AEC-609	Agricultural Finance	3(3-0)
AEC-611	International Economics	3(3-0)
AEC-613	Agricultural Policies of Pakistan	3(3-0)
	TOTAL	18

Semester-VII		
Code	Course Title	Credit Hours
AEC-601	Principles of Agricultural Marketing	3(0-6)
AEC-603	Introduction to Research Methods	3(3-0)
AEC-605	Economics of Livestock Production	3(3-0)
AEC-607	Project Planning & Evaluation	3(3-0)
AEC-609	Agricultural Finance	3(3-0)
AEC-611	International Economics	3(3-0)
AEC-613	Agricultural Policies of Pakistan	3(3-0)
	TOTAL	18

Semester-VIII		
Code	Course Title	Credit Hours
AEC-608	Internship	3(0-6)
AEC-610	Capstone Project	3(0-6)
	TOTAL	6

4. B.SC. (HONS.) AGRICULTURE (ENTOMOLOGY)

Semester-V		
Code	Course Title	Credit Hours
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 Behavior	3(2-2)
ENT-511	Apiculture	3(2-2)
	TOTAL	18

Semester-VI		
Code	Course Title	Credit Hours
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)
	TOTAL	18

Semester-VII		
Code	Course Title	Credit Hours
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	3(2-2)
	TOTAL	18

Semester-VIII		
Code	Course Title	Credit Hours
ENT-608	Internship	3(0-6)
ENT-610	Capstone Project	3(0-6)
	TOTAL	6

5. B.SC. (HONS.) AGRICULTURE (FOOD TECHNOLOGY)

Semester-V		
Code	Course Title	Credit Hours
FT-501	Principles of Food Preservation	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)
FT-511	Food Laws and Regulations	3(3-0)
TOTAL		18

Semester-VI		
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 Toxicology and Safety	3(3-0)
FT-512	Confectionery and Snack Foods	3(2-2)
TOTAL		18

Semester-VII		
Code	Course Title	Credit Hours
FT-601	Nutrition and Dietetics	3(2-2)
FT-603	Cereal Technology	3(2-2)
FT-605	Meat Technology	3(2-2)
FT-607	Food Plant Layout	2(2-0)

FT-609	Extrusion Technology	3(2-2)
FT-611	Unit Operations in Food Processing	3(3-0)
	TOTAL	18

Semester-VIII		
Code	Course Title	Credit Hours
FT-299	Internship	3(0-6)
FT-399	Capstone Project	3(0-6)
	TOTAL	6

6. B.SC. (HONS.) AGRICULTURE (HORTICULTURE)

Semester-V		
Code	Course Title	Credit Hours
HORT-501	Principles of Fruit Production	3(2-2)
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(2-2)
HORT-509	In vitro Propagation	3(1-4)
HORT-511	Vegetable and Flower Seed Production	3(2-2)
	TOTAL	18

Semester-VI		
Code	Course Title	Credit Hours
HORT-502	Tropical and Sub-Tropical Fruits	3(2-2)
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 in Horticulture	2(2-0)
HORT-514	Indoor Plant Culture and Scaping	3(2-2)
	TOTAL	20

Semester-VII

Code	Course Title	Credit Hours
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	Commercial Flower Production	3(2-2)
	TOTAL	18

Semester-VIII

Code	Course Title	Credit Hours
HORT-608	Internship	3(0-6)
HORT-610	Capstone Project	3(0-6)
	TOTAL	6

7. B.SC. (HONS.) AGRICULTURE (PLANT BREEDING AND GENETICS)

Semester-V

Code	Course Title	Credit Hours
PBG 501	Principles of Genetics	3(2-2)
PBG 503	Breeding for Crop Quality Traits	3(2-2)

PBG 505	Cytogenetics	3(2-2)
PBG 507	Biodiversity and Plant Genetic Resources	3(3-0)
PBG 509	Breeding Cereal Crops	3(2-2)
PBG-511	Biosafety Measures in Crop Improvement	3(2-2)
	TOTAL	18

Semester-VI		
Code	Course Title	Credit Hours
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	Crop Variety Registration and Intellectual Property Rights	3(3-0)
PBG 510	Molecular Genetics	3(2-2)
PBG-512	Experimentation in Plant Breeding	3(2-2)
	TOTAL	18

Semester-VII		
Code	Course Title	Credit Hours
PBG 601	Breeding Fiber 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)
PBG-611	New Trends in Crop Improvement	3(2-2)
	TOTAL	18

Semester-VIII		
Code	Course Title	Credit Hours
PBG-608	Internship	3(0-6)
PBG-610	Capstone Project	3(0-6)
	TOTAL	6

8. B.SC. (HONS.) AGRICULTURE (PLANT PATHOLOGY)

Semester-V		
Code	Course Title	Credit Hours
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(3-0)
PP-509	Abiotic Diseases of Plants	3(2-2)
PP-511	Introduction of Molecular Plant Pathology	3(2-2)
	TOTAL	18

Semester-VI		
Code	Course Title	Credit Hours
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(2-2)
PP-508	Methods and Techniques in Plant Pathology	3(2-2)
PP-510	Plant Resistance to Diseases	3(2-2)
PP-512	Beneficial Microorganisms for Sustainable Agriculture	3(2-2)
	TOTAL	18

Semester-VII		
Code	Course Title	Credit Hours
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-514	Pesticides, Their Action and Application	3(2-2)
	TOTAL	18

Semester-VIII		
Code	Course Title	Credit Hours
PP-608	Internship	3(0-6)
PP-610	Capstone Project	3(0-6)
	TOTAL	6

9. B.SC. (HONS.) AGRICULTURE (SOIL SCIENCE)

Semester-V		
Code	Course Title	Credit Hours
SS-501	Physical Properties of Soil	3(2-2)
SS-503	Chemical Properties of Soil	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 and Agro Waste Management	3(3-0)
	TOTAL	18

Semester-VI		
Code	Course Title	Credit Hours
SS-502	Salt Affected Soils and Water Quality	3(2-2)
SS-504	Soil and Water Conservation	3(2-2)
SS-506	Soil Survey and Land Evaluation	3(2-2)
SS-508	Soil Microbiology	3(2-2)
SS-510	Soil Water Plant Relationship	3(3-0)
SS-512	Instrumentation and Laboratory Techniques	3(2-2)
	TOTAL	18

Semester-VII		
Code	Course Title	Credit Hours
SS-601	Biochemistry of Soil Processes	3(2-2)
SS-603	Environmental Pollution and Management	3(3-0)
SS-605	Nuclear Techniques in Soil Research	3(3-0)
SS-607	Research Planning and Scientific Writing	3(2-2)
SS-609	Trace Elements in Agriculture	3(2-2)
ENV-601	Environmental Nanotechnology	3(3-0)
	TOTAL	18

Semester-VIII		
Code	Course Title	Credit Hours
SS-608	Internship	3(0-6)
SS-610	Capstone Project	3(0-6)
	TOTAL	6

10. B.SC. (HONS.) AGRICULTURE (SEED SCIENCE AND TECHNOLOGY)

Semester-V		
Code	Course Title	Credit Hours
SST-501	Principles of Seed Technology	3(2-2)
SST-503	Seed Production in Various Crops	3(2-2)
PBG-501	Principles of Genetics	3(2-2)
PBG-507	Biodiversity and Plant Genetic Resources	3(3-0)
HORT-511	Vegetable and Flower Seed Production	3(2-2)
PBG-511	Biosafety Measures in Crop Improvement	3(2-2)
TOTAL		18

Semester-VI		
Code	Course Title	Credit Hours
SST-502	Physiology of Seed Development	3(2-2)
SST-504	Hybrid Seed Production Technology	3(3-0)
PBG-508	Crop Variety Registration and Intellectual Property Rights	3(3-0)
FMPE-510	Seed Processing Industries and their Maintenance	3(2-2)
ENT-508	Stored Products Pests and their Management	3(2-2)
PBG-512	Experimentation in Plant Breeding	3(2-2)
TOTAL		18

Semester-VII		
Code	Course Title	Credit Hours
SST-601	Seed Storage	3(2-2)
SST-603	Biological Potential of Various Crops	3(3-0)
SST-605	Seed Production of Transgenic Crops	3(2-2)

PBG 607	Fundamentals of Plant Biometry	3(2-2)
PP-605	Seed and Postharvest Pathology	3(2-2)
AEC-615	Seed Marketing and Logistics	3(3-0)
	TOTAL	18

Semester-VIII		
Code	Course Title	Credit Hours
SST-608	Internship	3(0-6)
SST-610	Capstone Project	3(0-6)
	TOTAL	6

11. B.SC. (HONS.) AGRICULTURE (PRECISION AGRICULTURE)

Semester-V		
Code	Course Title	Credit Hours
AEN-501	Principles of Precision Agriculture	3(2-2)
STAT-	Experimental Design	3(2-2)
AEN-505	Introduction to Artificial Intelligence in Agriculture	3(2-2)
AEN-507	Precision Agronomy	3(2-2)
AEN-509	UAV Technologies for Crops	3(2-2)
AEN-511	Introduction to GIS	3(2-2)
	TOTAL	18

Semester-VI		
Code	Course Title	Credit Hours
AEN-502	Introduction to IoT Farming	3(2-2)
AEN-504	Application of Remote Sensing in Agriculture	3(2-2)
AEN-506	Smart Farm Machinery and Automation	3(2-2)
AEN-508	Precision Horticulture	3(2-2)
AEN-510	Electronics and Control Systems	3(2-2)
AEN-512	Smart Disease and Pest Monitoring	3(2-2)
	TOTAL	18
Semester-VII		
Code	Course Title	Credit Hours
AEN-601	Soil Variability and Fertility Management	3(2-2)
AEN-603	Precision Irrigation	3(2-2)
AEN-605	Smart Plant Breeding	3(2-2)
AEN-607	Programming for Precision Agriculture	3(2-2)
AEN-609	Climate Adaptation Tools and Technologies	3(2-2)
AEN-611	Economics of Precision Agriculture	3(2-2)
	TOTAL	18

Semester-VIII		
Code	Course Title	Credit Hours
AEN-602	Internship	3(0-6)
AEN-604	Capstone Project	3(0-6)
	TOTAL	6

12. B.SC. (HONS.) AGRICULTURE (HYDROPONICS AGRICULTURE)

Semester-V		
Code	Course Title	Credit Hours
IHA-501	Growing Media and Nutrient Solutions	3(2-2)
IHA-503	Nursery Management of Hydroponic Crops	3(2-2)
IHA-505	Introduction to Aquaponics	3(2-2)
IHA-507	Energy Management in Greenhouse	3(2-2)
IHA-509	Artificial Intelligence Application to Hydroponics	3(2-2)
IHA-511	Precision Irrigation	3(2-2)
	TOTAL	18
Semester-VI		
Code	Course Title	Credit Hours
IHA-502	Hydroponic Nutrition Management	3(2-2)
IHA-504	Aeroponics Production Technology	3(2-2)
IHA-506	Hydroponics Climate Control	3(2-2)
IHA-508	Crop Production Technology in Hydroponics	3(2-2)
IHA-510	Biosecurity of Greenhouse Crops	3(2-2)
IHA-512	Design of Hydroponic Structure	3(2-2)
	TOTAL	18
Semester-VII		
Code	Course Title	Credit Hours
IHA-601	Post-Harvest Technology of Hydroponic Crop	3(2-2)
IHA-603	Hydroponics Entrepreneurship	3(2-2)
IHA-605	Breeding Crops for Hydroponic Systems	3(2-2)
IHA-607	Robotics in Hydroponics	3(2-2)
IHA-609	Environmental Pollution and Management	3(2-2)

IHA-611	Quality Control and Safety in Hydroponics	3(2-2)
	TOTAL	18
Semester-VIII		
Code	Course Title	Credit Hours
HAT-608	Internship	3(0-6)
HAT-610	Capstone Project	3(0-6)
	TOTAL	6

BS(FORESTRY)

Admission and Registration:

Minimum Academic Requirement:

A candidate holding Intermediate Science Certificate (Pre-Medical, Pre-Engineering), or an equivalent certificate from any recognized Institute/College with at least 45% marks.

OR

F. Sc (Pre-Agriculture) with CGPA of at least 2.50/4.00.

Academic Standing

Grade Point Average

Maximum Grade Point Average (GPA)

4.00

Minimum Grade Point Average for obtaining the degree (CGPA)

2.50

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	2.25
8th	2.50

Explanation:

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

SCHEME OF STUDIES FOR BS(FORESTRY) PROGRAMME

Semester-I		
Code	Course Title	Credit Hours
BIOL-301	Biology-I	3(2-2)
ENG-301	Functional English	3(3-0)
SSH-301	Ideology & Constitution of Pakistan	2(2-0)
FR-301	Introduction to Forestry	3(2-2)
AGR-301	Basic Agriculture	2(1-2)
SS-301	Introduction to Soil Science	3(2-2)
FR-303	Introduction to REDD ⁺	3(3-0)
TOTAL		19

Semester-II		
Code	Course Title	Credit Hours
ENG-302	Expository Writing	3(3-0)
IS-302/ET-302	Islamic Studies/Ethics	2(2-0)
IT-302	Introduction to Information and Communication Technology	3(2-2)

HORT-301	Introductory Horticulture	2(1-2)
FR-302	Forestry and Climate Change	3(3-0)
SOC-308	Introduction to Sociology	2(2-0)
SOS-301	Moral Foundation of Education	2(2-0)
	TOTAL	17

Semester-III		
Code	Course Title	Credit Hours
STAT-401	Introduction to Statistics	3(3-0)
PBG-401	Introductory Genetics	2(1-2)
ENT-401	Introductory Entomology	2(1-2)
ECON-301	Introduction to Economics	3(3-0)
FR-401	Forest Policy and Law	3(3-0)
HA-301	Introduction to Hydroponic Agriculture	2(1-2)
FR-403	Principles of Argo-Forestry	2(2-0)
	TOTAL	17

Semester-IV		
Code	Course Title	Credit Hours
FR-402	Forest Engineering	3(2-2)
FR-404	Livestock Nutrition and Grazing Management	3(3-0)
FR-406	Forest Utilization	3(3-0)
FR-408	Forestry Extension	3(3-0)
FR-410	Basics of Wildlife Management	3(3-0)
PP-402	Introductory Plant Pathology	2(1-2)
MGT-402	Digital Entrepreneurship	2(1-2)
	TOTAL	19

Semester-V		
Code	Course Title	Credit Hours
FR-501	Silviculture	3(2-2)
FR-503	Range Management	3(2-2)
FR-505	Forest Biometrics	3(2-2)
FR-507	Tree Morphology and Physiology	3(2-2)
FR-509	Ecotourism and Park Management	3(3-0)
	TOTAL	15

Semester-VI		
Code	Course Title	Credit Hours
FR-504	Watershed Management	3(2-2)
FR-506	Wood Science and Technology	3(2-2)
FR-508	Range Vegetation-Livestock Interactions	3(3-0)
FR-510	Application of GIS and Remote Sensing in Forestry	3(2-2)
FR-512	Project Planning and Scientific Writing	3(2-2)
	TOTAL	15

Semester-VII		
Code	Course Title	Credit Hours
FR-601	Forest Accounts & Procedures	3(3-0)
FR-603	Forest Resource Economics	2(2-0)
FR-605	Forest Ecology	2(2-0)
FR-607	Forest Management Plan	3(2-2)
FR-609	Entrepreneurship in Forestry and Range Management	3(2-2)
FR-611	Non-Wood Forest Products	2(2-0)
	TOTAL	15

Semester-VIII		
Code	Course Title	Credit Hours
FR-608	Internship	3(0-6)
FR-610	Capstone Project	3(0-6)
	TOTAL	6

SCHEME OF STUDIES FOR M.SC. (HONS.) AGRICULTURE. / PH.D. AGRICULTURE

SCHEME OF STUDIES FOR M.SC (HONS.) AGRICULTURAL EXTENSION		
Code	Course Title	Credit Hours
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 Mainstreaming 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	3(2-2)

	Entrepreneurship	
AE-718	Participatory Approach to Agricultural Extension & Rural Development	3(2-2)
AE-719	Special Problem	1(0-2)
AE-720	Seminar	1(0-2)
AE-721	Role of Agriculture Extension in Rural Development (New Course)	3(3-0)
AE-722	Community Development through Extension Education (New Course)	3(3-0)
AE-723	Qualitative Research Methods (New Course)	3(2-2)
AE-724	Communication for Development (New Course)	3(3-0)
AE-799	Research and Thesis (M. Sc. (Hons.))	6(0-12)
AE-799	Research and Thesis (Ph. D.)	10(0-20)

**SCHEME OF STUDIES FOR M.SC (HONS.)
COMMUNICATION FOR DEVELOPMENT (C4D)**

Code	Course Title	Credit Hours
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.)
AGRICULTURE AGRONOMY & PH.D AGRONOMY**

Code	Course Title	Credit Hours
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.)
AGRICULTURE ENTOMOLOGY & PH.D ENTOMOLOGY**

Code	Course Title	Credit Hours
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 Behavior	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(2-2)
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.) MEDICAL ENTOMOLOGY**

Code	Course Title	Credit Hours
MENT-701	Smart Technologies in Medical Entomology	3(2-2)
MENT-702	Medical Entomology & Parasitology	3(3-2)
MENT-703	Epidemiological Investigation and Statistics	3(3-2)
MENT-704	Molecular Medical Entomology	3(2-2)
MENT-705	Insecticide Toxicology for Medical Entomology	3(2-2)
MENT-706	Ecology and Determinants of Vector-Borne Diseases	3(2-2)
MENT-707	One Health Approach to Vector-Borne Diseases	3(2-2)
MENT-708	Entomological Investigation	3(2-2)
MENT-709	Integrated Vector Management	3(2-2)
MENT-710	Integrated Urban Pest Management	3(2-2)
MENT-711	Research Methods in Medical Entomology	3(2-2)
MENT-719	Special Problem	1(1-0)
MENT-720	Seminar-I	1(1-0)
MENT-799	Research & Thesis	6(0-12)

**SCHEME OF STUDIES FOR M.SC (HONS.)
AGRICULTURE HORTICULTURE & PH.D HORTICULTURE**

Code	Course Title	Credit Hours
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)
HORT-720	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(2-2)
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.) LANDSCAPE ARCHITECTURE AND DESIGN

Code	Course Title	Credit Hours
LA-701	Design Studio I (Basic)	3(1-4)
LA-702	Design Studio II (Advanced)	3(1-4)
LA-703	Design Studio III (Hardscape designing)	3(1-4)
LA-704	Landscape History and Heritage	3(3-0)
LA-705	Climate Smart Landscaping	3(2-2)
LA-706	Turfgrass Science and Recreational Landscape Design	3(2-2)
LA-707	Landscape Ecology and Sustainable Developments	3(2-2)
LA-708	Landscape Materials	3(2-2)
LA-709	Surveying and Site Analysis	3(2-2)
LA-710	Plant Production and Nursery Entrepreneur	3(2-2)
LA-711	Project Planning and Landscape Management	3(2-2)
LA-712	Interior Plantscaping and Biophilic Design	3(2-2)
LA-713	Urban Landscapes and Arboriculture	3(2-2)
LA-719	Special Problem	1(0-2)
LA-720	Seminar	1(1-0)
LA-799	Research and Thesis	6(0-12)
Minor/Supporting course		
	GIS and Remote Sensing for Landscape Planning	3(2-2)
	Soil and Water Management	3(2-2)
	Advanced landscape Irrigation Systems	3(2-2)
	Landscape Machinery and Maintenance Practices	3(1-4)
STAT-701	Qualitative Statistics	3(2-2)

**SCHEME OF STUDIES FOR M.SC (HONS.)
AGRICULTURE (PLANT BREEDING AND GENETICS) &
PH.D (PLANT BREEDING AND GENETICS)**

Code	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)
PBG-720	Seminar-II	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.) AGRICULTURE (PLANT PATHOLOGY) & PH.D (PLANT PATHOLOGY)		
Code	Course Title	Credit Hours
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)
PP-720	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)

SCHEME OF STUDIES FOR M.PHIL (FORESTRY & RANGE MANAGEMENT) & PH.D (FORESTRY & RANGE MANAGEMENT)		
Code	Course Title	Credit Hours
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)
PP-799	Research & Thesis [M.Phil]	10 (0-20)
PP-799	Research & Thesis (Ph.D)	50(0-100)

Faculty of Sciences

Dean of the Faculty

Prof. Dr. Rahmatullah Qureshi



The Faculty of Sciences is unmatched due to its highly qualified and experienced faculty members and fully equipped laboratories. In addition to catering to the demand of other faculties in undergraduate and postgraduate teaching, its faculty are involved in active research collaborations within the faculty, among faculties, and with National and International institutions.

The achievements are the fruit of consistent efforts, but that has not made the brilliant manpower of this faculty sit back and rejoice. We are continuing on our path of recruiting quality faculty, developing excellent teaching facilities, and modernizing the laboratory facilities.

The faculty comprises eight departments, such as Botany, Biology, Zoology, Wildlife & Fisheries, Statistics, Mathematics, Chemistry, Physics and Eastern Medicine, designed to cater to the evolving needs of the scientific community. We offer a diverse range of undergraduate and postgraduate programs such as BS, BEMS, M. Phil. and PhDs. Our graduates are not only pursuing their advanced degrees in many National and International institutions but are also serving as faculty members and scientists in well-reputed centers of learning and research.

Following Departments are in the Faculty:

DEPARTMENT OF BOTANY

Chairman
Associate Professor
Assistant Professors

Dr. Noshin Ilyas
Dr. M. Naveed Iqbal Raja
Dr. Zia-ur-Rehman Mashwani
Dr. Saira Asif
Dr. Khafsa Malik

DEPARTMENT OF ZOOLOGY, WILDLIFE & FISHERIES

Chairman	Dr. Muhammad Sajid Nadeem
Associate Professors	Dr. Tariq Mahmood Dr. Muhammad Mushtaq
Assistant Professor	Dr. Muhammad Zubair Anjum Dr. Muhammad Irfan Dr. Muhammad Rais Dr. Bushra Allah Rakha Dr. Ainee Zafar
Lecturer	Dr. Ayesha Akram

DEPARTMENT OF BIOLOGY

Assistant Professors	Dr. Ruqia Mehmood Baig Dr. Khalid Mehmood
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DEPARTMENT OF MATHEMATICS

Chairman	Dr. Muhammad Jamal
Assistant Professors	Dr. Ehtsham Azhar
Lecturers	Dr. Sadia Medhit Ms. Beenish Shakir

DEPARTMENT OF STATISTICS

Chairman	Prof. Dr. Muhammad Hanif
Associate Professor	Dr. Saadia Masood
Assistant Professor	Dr. Mursala Khan
Lecturers	Dr. Nasir Ali Ms. Faryal



DEPARTMENT OF CHEMISTRY

Chairman	Prof. Dr. Ijaz Ahmad Bhatti (Subject Expert)
Assistant Professors	Dr. Saima Kalsoom Dr. Anum Zahid Dr. Muhammad Usman

DEPARTMENT OF PHYSICS

Chairman	Prof. Dr. Ijaz Ahmad Bhatti (Subject Expert)
Assistant Professors	Dr. Aftab Farrukh Dr. Asif Ilyas

BS (Botany, Biology, Computational Biology, Zoology)**Minimum Academic Requirement:-**

- A person holding Intermediate with Pre-Medical subject or an equivalent certificate from any recognized Institute/College with at least 45% marks.
- Must Passed University Admission Entry Test.

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 (50) for Morning Program and (50) for evening program.

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 25 years of age on the first day of the semester in the year of admission. However, the Vice Chancellor may relax the prescribed age limit in very exceptional cases.

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 130-140 credit hours.
- (iii) A full time student will be required to take courses not less than 15 credits hours in a semester and maximum 18 credits hours.

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

Academic Standing:

Grade Point Average

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

BS (Mathematics)

Minimum Academic Requirement:-

A person holding Intermediate with Mathematics subject or an equivalent certificate from any recognized Institute/College with at least 45% marks.

Must Passed University Admission Entry Test.

Domicile:-

- a. For Morning program seats are for all Punjab and Islamabad Capital Territory.
- b. For Evening Program seats are for all Pakistan basis.
- c. Number of seats are (40) for Morning Program and (40) for evening program.

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 25 years of age on the first day of the semester in the year of admission. However, the Vice Chancellor may relax the prescribed age limit in very exceptional cases.

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 130-140 credit hours.
 - (iii) A full time student will be required to take courses not less than 15 credits hours in a semester and maximum 18 credits hours.
- To remain on the roll of the University a student shall require to maintain the following minimum CGP A 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

Academic Standing:

Grade Point Average

- a. Maximum grade point average (GPA) 4.00
- b. Minimum grade point average for obtaining Degree (CGPA) 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.
- 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) Data Science**Minimum Academic Requirement:-**

A person holding Intermediate or an equivalent certificate from any recognized Institute/College

with at least 45% marks.

Must Passed University Admission Entry Test.

Domicile:-

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

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 25 years of age on the first day of the semester in the year of admission. However, the Vice Chancellor may relax the prescribed age limit in very exceptional cases.

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 130-140 credit hours.
- (iii) A full time student will be required to take courses not less than 15 credits hours in a semester and maximum 18 credits hours.

To remain on the roll of the University a student shall require 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	2.25
8th	2.50

Academic Standing:

Grade Point Average

- a. Maximum grade point average (GPA) 4.00
- b. Minimum grade point average for obtaining Degree (CGPA) 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.
- 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 2.50 within the maximum time allowed for the degree otherwise he/shall cease on the University roll.

BS (Data Analytics)**Minimum Academic Requirement:-**

A person holding Intermediate or an equivalent certificate from any recognized Institute/College with at least 45% marks.

Must Passed University Admission Entry Test.

Domicile:-

- a. For Morning program seats are for all Pakistan.
- b. Number of seats are (80) for Morning and (80) for Evening.

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 25 years of age on the first day of the semester in the year of admission. However, the Vice Chancellor may relax the prescribed age limit in very exceptional cases.

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 130-140 credit hours.
- (iii) A full time student will be required to take courses not less than 15 credits hours in a semester and maximum 18 credits hours.

To remain on the roll of the University a student shall require 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	2.25
8th	2.50

Academic Standing:**Grade Point Average**

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

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 2.50 within the maximum time allowed for the degree otherwise he/shall cease on the University roll.

BS (Chemistry, Physics, Physics (Nanoscience))

Minimum Academic Requirement:-

- a. A person holding Intermediate with relevant subject or an equivalent certificate from any recognized Institute/College with at least 45% marks.
- b. Must Passed University Admission Entry Test.

Domicile:-

- c. For Morning program seats are for all Punjab and Islamabad Capital Territory.
- d. For Evening Program seats are for all Pakistan basis.
- e. Number of seats are (40) for Morning Program and (40) for evening program.

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 25 years of age on the first day of the semester in the year of admission. However, the Vice Chancellor may relax the prescribed age limit in very exceptional cases.

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 130-140 credit hours.
 - (iii) A full time student will be required to take courses not less than 15 credits hours in a semester and maximum 18 credits hours.
- To remain on the roll of the University a student shall require 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	2.25
8th	2.50

Academic Standing:

Grade Point Average

- a. Maximum grade point average (GPA) 4.00
- b. Minimum grade point average for obtaining Degree (CGPA) 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.
- 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 2.50 within the maximum time allowed for the degree otherwise he/shall cease on the University roll.

Bachelor of Eastern Medicine

Minimum Academic Requirement:-

- a. A person holding Intermediate with Pre-Medical subjects or an equivalent certificate from any recognized Institute/College with at least 45% marks.
- b. Must Passed University Admission Entry Test.

Domicile:-

- a. For Morning program seats are for all Pakistan.
- b. Number of seats are (50) for Morning Program.

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 25 years of age on the first day of the semester in the year of admission. However, the Vice Chancellor may relax the prescribed age limit in very exceptional cases.

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 130-140 credit hours.
- (iii) A full time student will be required to take courses not less than 15 credits hours in a semester and maximum 18 credits hours.

To remain on the roll of the University a student shall require 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

Academic Standing:

Grade Point Average

- a. Maximum grade point average (GPA) 4.00
- b. Minimum grade point average for obtaining Degree (CGPA) 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.
- iii. If a student fails to achieve CGPA 2.50 in the 10th 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.

Master of Philosophy (M.Phil.):-

In Biology, Botany, Zoology, Chemistry, Mathematics, and Statistics with a minimum of 4 and maximum 8 semesters duration.

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).
- To remain on the roll of the University a student shall require to maintain the following minimum CGPA in each semester.

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

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.

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.

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(BIOLOGY)

Semester-I			
Course Category	Course Code	Course Title	Credit Hours
MAJOR-I	BIOL-301	Principles of Biology	3(2-2)
MAJOR-II	BIOL-302	Biodiversity and Conservation	3(2-2)
GER-I	QR- 401	Quantitative reasoning-I	3(3-0)
GER-II	IS/ET 301	Islamic Studies/ Ethics	2(2-0)
GER-III	CSE-100	Application of information and Communication Technologies (ICT)	3(2-2)
GER-IV	NS-402	The science of global challenges	3(3-0)
GER-V	-	Understanding of the Holy Quran - I *	1(0-1)
		Total	18

Semester-II			
Course Category	Course Code	Course Title	Credit Hours
MAJOR-III	BIOL-303	Introduction to Cell & Molecular Biology	3(2-2)
MAJOR-IV	BIOL-304	Fundamentals of Genetics & Evolution	3(2-2)
GER-VI	QR-II 402	Quantitative Reasoning-II	3(3-0)
GER-VII	SOC 301	Introduction to Sociology	2(2-0)
GER-VIII	SOS-301	Moral foundations of education	2(2-0)
GER-IX	SSH-303	Pakistan Studies	2(2-0)
GER-X	ENG-301	Functional English	3(3-0)
		Total	18

Semester-III			
Course Category	Course Code	Course Title	Credit Hours
MAJOR-V	BIOL-401	Principles of Biochemistry	3(2-2)
MAJOR-VI	BIOL-402	Principles of Microbiology	3(2-2)
MAJOR-VII	BIOL-403	Diversity of Animals	3(2-2)
MAJOR-VIII	BIOL-404	Diversity of Plants	3(2-2)
GER-XI	ENG-302	Expository Writing	3(3-0)
GER-XII	SSH-301	Civics and Community Engagement	2(2-0)
GER-XIII	SSH-302	Ideology and Constitution of Pakistan	2(2-0)
		Total	19

Semester-IV			
Course Category	Course Code	Course Title	Credit Hours
MAJOR-IX	BIOL-405	Introduction to Plant Anatomy and embryology	3(2-2)
MAJOR-X	BIOL-406	Fundamentals of Plant Taxonomy	3(2-2)
MAJOR-XI	BIOL-407	Invertebrate Zoology	3(2-2)
MAJOR-XII	BIOL-408	Vertebrate Zoology	3(2-2)
ALLIED- I	PHY-	Biophysics	3(2-2)
GER-XIV	SSH-304	Entrepreneurship	2(2-0)
GER-XV	-	Understanding of the Holy Quran - II	1(0-1)
		Total	18

Semester-V			
Course Category	Course Code	Course Title	Credit Hours
MAJOR-XIII	BIOL-501	Fundamentals of Phycology, Mycology & Bryology	3(2-2)
MAJOR-XIV	BIOL-502	Pteridophytes & Gymnosperms	3(2-2)
MAJOR-XV	BIOL-503	Systematics of Angiosperms	3(2-2)
MAJOR-XVI	BIOL-504	Animal anatomy and physiology	3(2-2)
MAJOR-XVII	BIOL-505	Developmental biology	3(2-2)
MAJOR-XVIII	BIOL-506	Principles of Animal Ecology	3(2-2)
		Total	18

Semester-VI			
Course Category	Course Code	Course Title	Credit Hours
MAJOR-XIX	BIOL-507	Plant Physiology	3(2-2)
MAJOR-XX	BIOL-508	Plant Ecology	3(2-2)
MAJOR-XXI	BIOL-509	Animal Behavior	3(2-2)
MAJOR-XXII	BIOL-510	Economic Biology	3(2-2)
ALLIED - II	ZOOL-628	Artificial Intelligence in Biological Sciences	3(2-2)
ALLIED - III	STATS-406	Biostatistics	3(2-2)
		Total	18

Semester-VII			
Course Category	Course Code	Course Title	Credit Hours
MAJOR-XXIII		Elective - I	3(2-2)
MAJOR-XXIV		Elective - II	3(2-2)
MAJOR-XXV		Elective - III	3(2-2)
MAJOR-XXVI		Elective - IV	3(2-2)
ALLIED - IV	BOT-615	Biosafety & Ethics	3(3-0)
INTERNSHIP- I	BIOL-299	Internship	3(0-3)
		Total	18

Semester-VIII			
Course Category	Course Code	Course Title	Credit Hours
MAJOR-XXVII		Elective - V	3(2-2)
MAJOR-XXVIII		Elective - VI	3(2-2)
MAJOR-XXIX		Elective - VII	3(2-2)
ALLIED-V	BOT-621	Sustainable Development Goals	3(3-0)
Capstone-I	BIOL-399	Capstone Project	3(0-3)
		Total	15

SCHEME OF STUDIES FOR BS(BOTANY)

Semester-I			
Course Category	Course Code	Course Title	Credit Hours
GER-01	ENG-301	Functional English	3(3-0)
GER-02	QR-401	Quantitative reasoning I	3(3-0)
GER-03	ENV-301	Introduction to Environmental Sciences	3(2-2)
GER-04	CSC-100	Introduction to Information and Communication Technologies (ICT)	3(2-2)
MAJ-01	BOT-301	Diversity of Plants	3(2-2)
MAJ-02	BOT-302	Cell Biology	3(2-2)
		Total	18

Semester-II			
Course Category	Course Code	Course Title	Credit Hours
GER-05	SOC 301	Introduction to Sociology	2(2-0)
GER-06	QR-402	Quantitative reasoning-II	3(3-0)
GER-07	ENG-302	Expository Writing	3(3-0)
IR-01	BIOL-3	Biodiversity and Conservation	3(2-2)
IR-02	BIOL-3	Fundamentals of Genetics and Evolution	3(2-2)
MAJ-03	BOT-303	Fundamental Plant Taxonomy	3(2-2)
		Total	17

Semester-III			
Course Category	Course Code	Course Title	Credit Hours
GER-08	SOS-301	Moral foundation of Education	2(2-0)
GER-09	IS/ET-301	Islamic Studies	2(2-0)
GER-10	SSH-302	Ideology and Constitution of Pakistan	2(2-0)
MAJ-04	BOT-401	Phycology and Bryology	3(2-2)
MAJ-05	BOT-402	Mycology	3(2-2)
MAJ-06	BOT-403	Plant Anatomy and embryology	3(2-2)
		Total	15

Semester-IV			
Course Category	Course Code	Course Title	Credit Hours
GER-11	SSH-304	Entrepreneurship	2(2-0)
GER-12	SSH-301	Civic and Community engagement	2(2-0)
GER-13	SSH-303	Pakistan Studies	2(2-0)
MAJ-07	BOT-404	Phytogeography	3(2-2)
MAJ-08	BOT-405	Principals of Plant Ecology	3(2-2)
MAJ-09	BOT-406	Principals of Plant Biochemistry	3(2-2)
MAJ-10	BOT-407	Principals of Plant Physiology	3(2-2)
		Total	18

Semester-V			
Course Category	Course Code	Course Title	Credit Hours
MAJ-11	BOT-501	Advanced Plant Ecology	3(2-2)
MAJ-12	BOT-502	Advanced Plant Biochemistry	3(2-2)
MAJ-13	BOT-503	Advanced Plant Physiology	3(2-2)
MAJ-14	BOT-504	Microbial Botany	3(2-2)
MAJ-15	BOT-505	Pteridophytes and Gymnosperm	3(2-2)
IR-03	STAT-5	Biostatistics	3(2-2)
		Total	18

Semester-VI			
Course Category	Course Code	Course Title	Credit Hours
MAJ-16	BOT-507	Systematics of Angiosperms	3(2-2)
MAJ-17	BOT-508	Plant Pathology	3(2-2)
MAJ-18	BOT-509	Environmental Biology (Elective I)	3(2-2)
IR-04	BIOL-5	Molecular Genetics	3(2-2)
IR-05	BIOL-5	Sustainable Development Goals	3(2-2)
IR-06	BIOL-5	Artificial Intelligence (AI) in Botany	3(1-4)
		Total	18

Semester-VII			
Course Category	Course Code	Course Title	Credit Hours
MAJ-19	BOT-601	Analytical Techniques in Botany	3(2-2)
MAJ-20	BOT-602	Field Botany	3(2-2)
MAJ-21	BOT-603	Forensic Botany	3(2-2)
MAJ-22	BOT-604	Principles of Pharmacognosy and Phytochemistry (Elective II)	3(2-2)
IR-06	BIOL-6	Scientific Inquiry & Research Methods	3(0-6)
Internship	BOT-299	Internship	3(0-6)
		Total	18

Semester-VIII			
Course Category	Course Code	Course Title	Credit Hours
MAJ-23	BOT-605	Plant Biotechnology	3(2-2)
MAJ-24	BOT-606	Economic and Industrial Botany	3(3-0)
MAJ-25	BOT-607	Evolutionary Trends in Plants	3(2-2)
MAJ-26		Elective-III*	3(---)
MAJ-27	BOT-620	Seminar	1(1-0)
Cap. Project	BOT 399	Capstone Project	3(0-6)
		Total	16

SCHEME OF STUDIES FOR BS(ZOOLOGY)

Semester-I			
Course Category	Course Code	Course Title	Credit Hours
MAJOR-I	ZOOL-301	Diversity of Invertebrates	3(2-2)
Interdisciplinary-I	BOT-311	Plant Diversity	3(2-2)
GER-I	QR-401	Quantitative Reasoning - I	3(3-0)
GER-II	NS-402	The Science of Global Challenges	3(3-0)
GER-III	ENG-301	Functional English	3(3-0)
GER-IV	CSC-100	Applications of Information & Communication Technologies (ICT)	3(2-1)
		Total	18

Semester-II			
Course Category	Course Code	Course Title	Credit Hours
MAJOR-II	ZOOL-302	Cell Biology	3 (2-2)
MAJOR-III	ZOOL-303	Diversity of Chordates	3 (2-2)
Interdisciplinary-II	BOT 411	Plant Ecology and Plant Physiology	3 (2-2)
GER-V	QR-401	Quantitative Reasoning - II	3 (3-0)
GER-VI	ENG-302	Expository Writing	3 (3-0)
GER-VII	SOC-301	Introduction to Sociology	2(2-0)
		Total	17

Semester-III			
Course Category	Course Code	Course Title	Credit Hours
Major-IV	ZOOL-401	Animal Ecology	3(2-2)
Major-V	ZOOL-402	Animal Form & Function – I (Comparative Anatomy)	3(2-2)
Major-VI	ZOOL-403	Animal Behavior	3(3-0)
Interdisciplinary-III	CHEM-411	Basic Chemistry	3(2-2)
GER-VIII	IS/ET-302	Islamic Studies / Ethics	2(2-0)
GER-IX	SSH-303	Pakistan Studies	2(2-0)
GER-X	SOS-301	Moral Foundation of Education	2(2-0)
		Total	18

Semester-IV			
Course Category	Course Code	Course Title	Credit Hours
Major-VII	ZOOL-404	Evolution	3(3-0)
Major- VIII	ZOOL-405	Animal Form & Function-II (Comparative Physiology)	3(2-2)
Major-IX	ZOOL-406	Entomology	3(2-2)
Major-X	ZOOL-407	Developmental Biology	3(2-2)
GER-XI	SSH-301	Civics & Community Engagement	2(2-0)
GER-XII	SSH-304	Entrepreneurship	2(2-0)
GER-XIII	SSH-302	Ideology & Constitution of Pakistan	2(2-0)
		Total	18

Semester-V			
Course Category	Course Code	Course Title	Credit Hours
MAJOR-XI	ZOOL-501	Zoogeography & Paleontology	3(2-2)
MAJOR-XII	ZOOL-502	Marine Biology	3(3-0)
MAJOR-XIII	ZOOL-503	Principles of Systematic Zoology	3(2-2)
Interdisciplinary-IV	BCH-301	Introductory Biochemistry	3(2-2)
Interdisciplinary-V	BIOL-502	Principles of Genetics	3(2-2)
Interdisciplinary-VI	STAT-623	Biostatistics	3(2-2)
		Total	18

Semester-VI			
Course Category	Course Code	Course Title	Credit Hours
MAJOR-XIV	ZOOL-504	Fisheries & Aquaculture	3(2-2)
MAJOR-XV	ZOOL-505	Research Methodologies & Bioethics	3(2-2)
MAJOR-XVI	ZOOL-601	Wildlife Conservation & Management	3(2-2)
MAJOR-XVII	ZOOL-602	Economic Zoology	3(3-0)
Interdisciplinary-VII	BIOL-508	Molecular Biology	3(2-2)
		Total	15

Semester-VII			
Course Category	Course Code	Course Title	Credit Hours
MAJOR-XVIII	ZOOL-	Elective - I	3(0-3)
MAJOR-XIX	ZOOL-	Elective - II	3(0-3)
MAJOR-XX	ZOOL-	Elective - III	3(0-3)
MAJOR-XXI	ZOOL-	Elective - IV	3(0-3)
Interdisciplinary-VIII	MICRO-403	General Microbiology and Immunology	3(2-2)
Internship-I	ZOOL-299	Internship	3(0-3)
		Total	18

Semester-VIII			
Course Category	Course Code	Course Title	Credit Hours
MAJOR-XXII	ZOOL-	Elective - V	3
MAJOR-XXIII	ZOOL-	Elective - VI	3
MAJOR-XXIV	ZOOL-	Elective - VII	3
Interdisciplinary-IX	BCH-405	Bioinformatics	3(2-2)
Capstone-I	ZOOL-399	Capstone Project	3(0-3)
		Total	15

SCHEME OF STUDIES FOR BS (MATHEMATICS)

Semester-I		
Course Code	Course Title	Credit Hours
ENG-102	Functional English	3(3-0)
IS/ET-301/302	Islamic Studies/Ethics	2(2-0)
SSH-403	Civics and Community Engagement	2(2-0)
SSH-404	Ideology and Constitution of Pakistan	2(2-0)
MTH-111	Calculus and Analytical Geometry -I	3(3-0)
MTH-112	Set Theory and Logic	3(3-0)
	Total	15

Semester-II		
Course Code	Course Title	Credit Hours
ENG-201	Expository Writing	3(3-0)
SSH-401	Entrepreneurship	2(2-0)
SOS-301	Moral Foundation of Education	2(2-0)
SOC-301	Introduction to Sociology	2(2-0)
MTH-113	Calculus and Analytical Geometry -II	3(3-0)
MTH-114	Discrete Mathematics	3(3-0)
	Total	15

Semester-III		
Course Code	Course Title	Credit Hours
CSC-100	Application of Information and Communication Technologies	3(2-3)
QR-I-401	Quantitative Reasoning-I	3(3-0)
MTH-211	Vector Calculus and Complex Numbers	3(3-0)
MTH-212	Algebra	3(3-0)
MTH-213	Topology	3(3-0)
PHY-408	Introduction to Mechanics	3(3-0)
CSC-100	Application of Information and Communication Technologies	3(2-3)
	Total	18

Semester-IV		
Course Code	Course Title	Credit Hours
PHY-301	Applied Physics	3(2-1)
QR-II-402	Quantitative Reasoning-II	3(3-0)
MTH-214	Introduction to Ordinary Differential Equations	3(3-0)
MTH-215	Real Analysis-I	3(3-0)
MTH-216	Group Theory	3(3-0)
CSC-203	Artificial Intelligence	3(2-3)
	Total	18

Semester-V		
Course Code	Course Title	Credit Hours
MTH-311	Vector and Tensor Analysis	3(3-0)
MTH-312	Linear Algebra	3(3-0)
MTH-313	Ordinary Differential Equations	3(3-0)
MTH-314	Complex Analysis	3(3-0)
MGT-391	Business Mathematics	3(3-0)
	Total	15

Semester-VI		
Course Code	Course Title	Credit Hours
MTH-315	Real Analysis-II	3(3-0)
MTH-316	Partial Differential Equations	3(3-0)
MTH-317	Numerical Analysis	3(3-0)
MTH-318	Differential Geometry	3(3-0)
STAT-301	Introductory Statistics	3(3-0)
	Total	15

Semester-VII		
Course Code	Course Title	Credit Hours
MTH-411	Functional Analysis	3(3-0)
MTH-412	Mathematical Physics	3(3-0)
MTH-413	Rings and Fields	3(3-0)
MTH-414	Fluid Mechanics	3(3-0)
MTH-299	Field Experience/Internship	3(3-0)
	Total	15

Semester-VIII		
Course Code	Course Title	Credit Hours
MTH-415	Number Theory	3(3-0)
MTH-416	Modeling and Simulation	3(2-2)
MTH-399	Capstone Project	3(0-3)
	Total	9

SCHEME OF STUDIES FOR BS(STATISTICS) DATA SCIENCE

Semester-I		
Course Code	Course Title	Credit Hours
ENG-301	Functional English	3(3-0)
IS/ET-301	Islamic Studies / Ethics	2(2-0)
CSC-100	Applications of Information and Communication Technologies (ICT)	3(2-2)
STAT-301	Introductory Statistics	3(3-0)
STAT-413	Introduction to Data Science	3(2-2)
MATH-301	Mathematics-1	3(3-0)
FQ-301	Fehm-e-Quran	1(1-0)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
ENG-401	Expository Writing	3(3-0)
SSH-302	Pakistan Studies	2(2-0)
SSH-401	Entrepreneurship	2(2-0)
STAT-302	Introduction to probability and probability distributions	3(3-0)
CSC-103	Database Systems	4 (3-3)
MATH-302	Mathematics-II (Calculus)	3(3-0)

FQ-302	Fehm-e-Quran	1(1-0)
	Total	17

Semester-III		
Course Code	Course Title	Credit Hours
SSH-404	Ideology and constitution of Pakistan	2(2-0)
IS/ET	Islamic Studies/Ethics	2(2-0)
SOS-302	Seerat Studies	2(2-0)
QR-401	Quantitative Reasoning-I	3(3-0)
SSH-401	Social and Civics Skill	2(2-0)
STAT-404	Exploratory Data Analysis and Visualization	3(3-0)
CSC-101	Programing Fundamental	4(3-3)
	Total	18

Semester-IV		
Course Code	Course Title	Credit Hours
QR-402	Quantitative Reasoning-II	3(3-0)
SSH-302	Pakistan Studies	2(2-0)
SOS-301	Moral Foundation of Education	2(2-0)
SOS-301	Introduction to Sociology	2(2-0)
STAT-415	Data Wrangling	3(2-2)

STAT-403	Introduction to Regression Analysis and Experimental Designs	3(3-0)
CSC-202	Information Security	3(2-3)
FQ-304	Fehm-e-Quran	1(1-0)
	Total	18

Semester-V		
Course Code	Course Title	Credit Hours
STAT-501	Probability Distributions	3(3-0)
STAT-502	Sampling Techniques	3(3-0)
STAT-503	Design and Analysis of Experiments	3(3-0)
STAT-504	Statistical Packages	3(2-2)
STAT-416	Functional Data Analysis	3(2-2)
CSC-204	Computer Networks	3(2-3)
	Total	18

Semester-VI		
Course Code	Course Title	Credit Hours
STAT-511	Statistical Inference	3(3-0)
STAT-508	Regression Analysis	3(3-0)
	Elective I	3(3-0)
	Elective II	3(3-0)
	Elective II	3(3-0)
	Total	15

Semester-VII		
Course Code	Course Title	Credit Hours
STAT-617	Statistical Programming using R and Python	3(2-2)
STAT-605	Operation Research	3(3-0)
STAT-606	Stochastic Processes	3(3-0)
	Elective IV	3(3-0)
	Elective V	3(3-0)
STAT-299	Field Experience / Internship	3(0-6)
	Total	18

Semester-VIII		
Course Code	Course Title	Credit Hours
STAT-603	Applied Multivariate Analysis	3(3-0)
STAT-399	Capstone Project	3(0-3)
	Elective VI	3(3-0)
	Elective VII	3(3-0)
	Elective VIII	3(3-0)
	Total	15

List of Elective Courses for BS Statistics with Data Science Programs

Course Code	Course Title	Credit Hours
STAT-505	Statistical Tools for Data Science	3(2-2)
STAT-506	Statistics for Deep Learning	3(2-2)
STAT-602	Statistical Methods for Data Mining	3(2-2)
STAT-610	Statistical Machine Learning	3(2-2)
CSC-203	Artificial Intelligence	3(2-3)
STAT-616	Big Data Analytics	3(2-2)
STAT-618	Digital Analytics	3(2-2)
STAT-621	High Dimensional Data Analysis	3(2-2)

SCHEME OF STUDIES BS IN DATA ANALYTICS

Semester-I		
Course Code	Course Title	Credit Hours
ENG-301	Functional English	3(3-0)
IS/ET-301	Islamic Studies/Ethics	2(2-0)
CSC-100	Applications of Information and Communication Technologies (ICT)	3(2-2)
SOS-301	Moral Foundation of Education	2(2-0)
DAN-301	Introduction to Data Analytics	3(2-2)
DAN-302	Basic Mathematics for Data Analytics	3(3-0)
FQ-301	Fehm-e-Quran	
	Total	16

Semester-II		
Course Code	Course Title	Credit Hours
CSC-111	Digital Logic Design	3(2-3)
ENG-302	Expository Writing	3(3-0)
SOS-302	Seerat Studies	2(2-0)
SSH-302	Ideology and Constitution of Pakistan	2(2-0)
SSH-301	Civics and Community Engagement	2(2-0)
DAN-303	Introduction of Probability Theory	3(3-0)
DAN-304	Linear Algebra for Data Analytics	3(3-0)
FQ-302	Fehm-e- Quran	
	Total	18

Semester-III		
Course Code	Course Title	Credit Hours
QR-401	Quantitative Reasoning-I	3(3-0)
CSC-103	Database Systems	4(3-2)
SSH-301	Pakistan Studies	2(2-0)
CSC-102	Object Oriented Programming	4(3-3)
DAN-401	Introduction to Data Science	3(3-0)
DAN-403	Data Visualization	3(3-0)
FQ-303	Fehm-e-Quran	
	Total	18

Semester-IV		
Course Code	Course Title	Credit Hours
SSH-302	Entrepreneurship	2(2-0)
QR-402	Quantitative Reasoning-II	3(3-0)
CSC-203	Artificial Intelligence	3(2-3)
DAN-405	Statistical Inference	3(3-0)
DAN-406	Computing Tools for Data Analytics	3(2-2)
DAN-407	Sampling Theory and Practice	3(3-0)
FQ-304	Fehm-e-Quran	
	Total	18

Semester-V		
Course Code	Course Title	Credit Hours
DAN-501	Regression Modeling Strategies	3(3-0)
DAN-502	Bayesian Analysis and Statistical Decision Making	3(3-0)
DAN-503	Design of Experiments	3(3-0)
DAN-402	Distribution Theory	3(3-0)
CSC-401	Analysis of Algorithms	3(3-0)
CSC-111	Digital Logic Design	3(2-3)
	Total	18

Semester-VI		
Course Code	Course Title	Credit Hours
DAN-504	Applied Time Series Analysis	3(3-0)
DAN-505	Programming in R and Python	3(2-3)
DAN-506	Multivariate Analysis	3(3-0)
CSC-204	Computer Network	3(2-3)
CSC-202	Information Security	3(2-3)
CSC-301	Operating System	3(2-3)
	Total	15

Summer semester: (*Internship will be preferably offered in summer break after 6th semester*)

DAN-299	Field Experience/Internship <i>Internship will be preferably offered in summer break after 6th semester</i>	3(0-6)
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Semester-VII		
Course Code	Course Title	Credit Hours
DAN-601	Introduction to Big Data Technologies	3(3-0)
DAN-602	Introduction to Machine Learning	3(3-0)
DAN-603	Simulation Techniques in Data Analytics	3(3-0)
DAN-604	Business Analytics	3(3-0)
DAN-605	Social Media Analytics	3(3-0)
DAN-606	Data Driven Process Monitoring	3(3-0)
	Total	18

Semester-VIII		
Course Code	Course Title	Credit Hours
DAN-607	Cloud Computing for Data Analytics	3(2-3)
DAN-608	Introduction to Deep Learning	3(3-0)
DAN-609	Healthcare Analytics	3(3-0)
DAN-610	Geospatial Analytics	3(3-0)
DAN-399	Capstone Project	3(0-6)
	Total	15

List of Elective Courses for BS Statistics with Data Science Programs

Course Code	Course Title	Credit Hours
STAT-505	Statistical Tools for Data Science	3(3-0)
STAT-506	Statistics for Deep Learning	3(3-0)
STAT-602	Statistical Methods for Data Mining	3(3-0)
STAT-610	Statistical Machine Learning	3(3-0)
CS-632	Artificial Intelligence	3(2-2)
STAT-616	Big Data Analytics	3(3-0)
STAT-618	Digital Analytics	3(3-0)
STAT-621	High Dimensional Data Analysis	3(3-0)

SCHEME OF STUDIES FOR BS(CHEMISTRY)

Semester-I		
Course Code	Course Title	Credit Hours
ENG-301	Functional English	3(3-0)
IS-301	Islamic Studies/ Ethics	2(2-0)
SSH-404	Ideology and constitution of Pakistan	2(2-0)
SCS-401	Social and Civic skills	2(2-0)
CHEM -301	Inorganic Chemistry 1	3(2-0)
MTH -301	Mathematics-1	3(3-0)
CHEM -302	Analytical Chemistry I	3(2-2)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
ENG-401	Expository writing	3(3-0)
MGT-302	Entrepreneurship	2(2-0)
SOS-301	Moral Foundation of Education	2(2-0)
SOC-301	Introduction to Sociology	2(2-0)
CHEM-303	Organic chemistry 1	3(2-2)
MTH-302	Mathematics-II	3(3-0)
CHEM-304	Industrial Chemistry	3(3-0)
	Total	18

Semester-III		
Course Code	Course Title	Credit Hours
CS-402/IT-302	Application of information and communication technologies (ICT)	3(2-1)
QRI-401	Quantitative Reasoning-I	3(3-0)
CHEM-401	Physical Chemistry I	3(2-2)
CHEM-402	Inorganic Chemistry	3(2-2)
CHEM-403	Organic Chemistry II	3(2-2)
BIOL-503	Molecular biology	3(2-2)
	Total	18

Semester-IV		
Course Code	Course Title	Credit Hours
NS-402	The Science of Global Challenges	3(3-0)
QR II-402	Quantitative Reasoning-II	3(3-0)
CHEM-404	Physical Chemistry II	3(2-2)
CHEM-405	Environmental Chemistry	3(2-2)
BOT-413	Plant Physiology	3(2-2)
CHEM-406	Biochemistry 1	3(2-2)
	Total	18

Semester-V		
Course Code	Course Title	Credit Hours
CHEM-501	Organic Chemistry III	3(2-2)
CHEM-502	Physical Chemistry III	3(2-2)
CHEM-506	Inorganic Chemistry III	3(3-0)
CHEM-503	Analytical Chemistry II	3(2-2)
CHEM-504	Pharmaceutical Chemistry	3(3-0)
CHEM-505	Biochemistry II	3(2-2)
	Total	18

Semester-VI		
Course Code	Course Title	Credit Hours
CHEM-506	Computational Chemistry	3(3-0)
CHEM-507	Spectroscopy	3(3-0)
STAT-414	Probability & Statistics	3(3-0)
CHEM-508	Experimental techniques in Chemistry	3(3-0)
CHEM-509	Nanochemistry	3(3-0)
CHEM-510	Material Chemistry	3(3-0)
	Total	18

Semester-VII		
Course Code	Course Title	Credit Hours
CHEM-601-603	Paper -IV: Inorganic/Organic/Physical	3(3-0)
CHEM-604-606	Paper-V: Inorganic/Organic/Physical	3(3-0)
CHEM-607-609	Paper-VI: Inorganic/Organic/Physical	3(3-0)
CHEM-299	Internship	3(0-3)
CHEM-610	Lab 1	1(1-0)
	Total	13

Semester-VIII		
Course Code	Course Title	Credit Hours
CHEM-611-613	Paper VII: Inorganic/Organic/Physical	3(3-0)
CHEM-614-616	Paper VIII: Inorganic/Organic/Physical	3(3-0)
CHEM-399	Capstone Project	3(0-3)
CHEM-617-619	Paper IX Inorganic/Organic/Physical Chemistry	3(3-0)
CHEM-620	Lab II	1(1-0)
	Total	13

SCHEME OF STUDIES FOR BS(PHYSICS)

Semester-I		
Course Code	Course Title	Credit Hours
ENG-301	Functional English	3(3-0)
IS/ET-302	Islamic Studies/ Ethics	2(2-0)
SSH-301	Civics and Community Engagement	2(2-0)
SSH-302	Ideology and constitution of Pakistan	2(2-0)
SOC-301	Introduction to Sociology	2(2-0)
PHY-301	Mechanics	4(3-2)
MTH-111	Calculus and Analytical Geometry-I	3(3-0)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
ENG-302	Expository Writing	3(3-0)
SSH-304	Entrepreneurship	2(2-0)
SOS-301	Moral Foundations of Education	2(2-0)
SSH-303	Pakistan Studies	2(2-0)
MTH-113	Calculus and Analytical Geometry-II	3(3-0)
PHY-303	Electricity and Magnetism	3(2-2)
	Total	20

Semester-III		
Course Code	Course Title	Credit Hours
QQ-I 401	Quantitative reasoning-I	3(3-0)
CSC-100	Application of Information and Communication Technologies (ICT)	3(2-2)
PHY-401	Heat and Thermodynamics	3(2-2)
PHY-402	Modern Physics and Optics	3(2-2)
PHY-403	Waves and Oscillations	4(3-0)
MTH-312	Linear Algebra	3(3-0)
	Total	18

Semester-IV		
Course Code	Course Title	Credit Hours
QR-II-402	Quantitative reasoning-II	3(3-0)
NS-402	The Science of Global Challenges	3(3-0)
PHY-404	Mathematical Methods of Physics-I	3(3-0)
MTH-214	Introduction to Ordinary Differential Equations	3(3-0)
PHY-405	Electronics-I	3(3-0)
PHY-406	Methods of Experimental Physics	3(3-0)
	Total	18

Semester-V		
Course Code	Course Title	Credit Hours
PHY-501	Mathematical Methods of Physics-II	3(3-0)
PHY-502	Electrodynamics-I	3(3-0)
CS-323	Programming Fundamental (C++, Python)	3(2-2)
PHY-503	Classical Mechanics	3(3-0)
PHY-504	Electronics-II	3(3-0)
PHY-505	Introduction to Material Science	3(3-0)
	Total	18

Semester-VI		
Course Code	Course Title	Credit Hours
PHY-506	Statistical Mechanics	3(3-0)
PHY-507	Electrodynamics-II	3(3-0)
PHY-508	Solid State Physics-I	3(3-0)
PHY-509	Quantum Mechanics-I	3(3-0)
PHY-510	Atomic and Molecular Physics	3(3-0)
PHY-511	Surface Physics	3(3-0)
	Total	18

Semester-VII		
Course Code	Course Title	Credit Hours
PHY-601	Quantum Mechanics-II	3(3-0)
PHY-602	Solid State Physics-II	3(3-0)
PHY-603	Quantum Optics	3(3-0)
PHY-604	Introduction to Nanoscience and Technology-I	3(3-0)
PHY-299	Internship/Field Experience	3(0-6)
	Total	16

Semester-VIII		
Course Code	Course Title	Credit Hours
PHY-605	Introduction to Photonics	3(3-0)
PHY-606	Lasers	3(3-0)
PHY-607	Electronic Materials and Devices	3(3-0)
PHY-399	Capstone Project	3(0-6)
	Total	13

SCHEME OF STUDIES FOR BS(PHYSICS NANOSCIENCE)

Semester-I		
Course Code	Course Title	Credit Hours
ENG-301	Functional English	3(3-0)
IS/ET-302	Islamic Studies/ Ethics	2(2-0)
SSH-301	Civics and Community Engagement	2(2-0)
SSH-302	Ideology and constitution of Pakistan	2(2-0)
SOC-301	Introduction to Sociology	2(2-0)
PHY-301	Mechanics	4(3-2)
MTH-111	Calculus and Analytical Geometry-I	3(3-0)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
ENG-302	Expository Writing	3(3-0)
SSH-304	Entrepreneurship	2(2-0)
SOS-301	Moral Foundations of Education	2(2-0)
SSH-303	Pakistan Studies	2(2-0)
MTH-113	Calculus and Analytical Geometry-II	3(3-0)
PHY-303	Electricity and Magnetism	4(2-2)
ENG-302	Expository Writing	3(3-0)
	Total	16

Semester-III		
Course Code	Course Title	Credit Hours
QQ-I 401	Quantitative Reasoning-I	3(3-0)
CSC-100	Application of Information and Communication Technologies (ICT)	3(2-2)
PHY-401	Heat and Thermodynamics	3(2-2)
PHY-402	Modern Physics and Optics	3(2-2)
PHY-304	Waves and Oscillations	3(2-2)
MTH-312	Linear Algebra	3(3-0)
	Total	18

Semester-IV		
Course Code	Course Title	Credit Hours
QR-II-402	Quantitative Reasoning-II	3(3-0)
NS-402	The Science of Global Challenges	3(3-0)
PHY-404	Mathematical Methods of Physics-I	3(3-0)
MTH-214	Introduction to Ordinary Differential Equations	3(3-0)
PHY-403	Philosophy of Physics	3(3-0)
PHY-406	Methods of Experimental Physics	3(3-0)
	Total	18

Semester-V		
Course Code	Course Title	Credit Hours
PHY-501	Mathematical Methods of Physics-II	3(3-0)
PHY-502	Electrodynamics-I	3(3-0)
CS-323	Programming Fundamental (C++, Python)	3(2-2)
PHY-503	Classical Mechanics	3(3-0)
PHY-405	Electronics-I	3(3-0)
PHY-505	Atomic and Molecular Physics	3(3-0)
	Total	18

Semester-VI		
Course Code	Course Title	Credit Hours
PHY-506	Statistical Mechanics	3(3-0)
PHY-507	Electrodynamics-II	3(3-0)
PHY-504	Electronics-II	3(3-0)
PHY-509	Quantum Mechanics-I	3(3-0)
PHY-511	Programming for Physicist	3(0-4)
MTH-317	Numerical Analysis	3(3-0)
	Total	18

Semester-VII		
Course Code	Course Title	Credit Hours
PHY-601	Quantum Mechanics-II	3(3-0)
PHY-508	Solid State Physics	3(3-0)
PHY-603	Nuclear Physics	3(3-0)
PHY-604	Digital Electronics	4(3-0)
PHY-299	Internship/Field Experience	3(0-6)
	Total	16

Semester-VIII		
Course Code	Course Title	Credit Hours
PHY-624	Laser and Plasma Physics	3(3-0)
PHY-607	Quantum Information Theory	3(3-0)
PHY-617	Particle Physics	3(3-0)
PHY-399	Capstone Project	3(0-6)
	Total	12

SCHEME OF STUDIES FOR BACHELOR OF EASTERN MEDICINE SYSTEM

Semester-I		
Course Code	Course Title	Credit Hours
EMS-101	Anatomy-I	3(2-1)
EMS-102	Biochemistry-I	3(2-1)
ENG-301	English Functional	3(3-0)
EMS-103	Principles Of Eastern Medicine-I	3(3-0)
IS/ET-301	Islamic Studies/Ethics	2(2-0)
EMS-104	Physiology-I	3(2-1)
CSC-300	Application of information and communication technologies (ICT)	3(2-1)
TOQ301	Translation of Quran	1(1-0)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
EMS-105	Anatomy-II	3(2-1)
EMS-106	Biochemistry-II	3(2-1)
SOS-301	Moral Foundation of Education	2(2-0)
CHEM-415	Natural Product Chemistry/ Medicinal Chemistry	3(2-1)
EMS-107	Principles Of Eastern Medicine-II	3(3-0)
SSH-301	Ideology and constitution of Pakistan	2(2-0)
EMS-108	Physiology II	3(2-1)

ENG-302	Expository Writing	3(3-0)
	Total	22

Semester-III		
Course Code	Course Title	Credit Hours
EMS-201	Anatomy-III	3(2-1)
DVM-	One Health	3(2-1)
EMS-202	Pharmacognosy-I	3(2-1)
EMS-203	Physiology-III	3(2-1)
EMS-204	Principles Of Eastern Medicine-III	3(3-0)
TOQ-401	Translation of Holy Quran	1(1-0)
EMS-205	Biochemistry- III	3(3-1)
QR-401	Quantitative Reasoning-I	3(3-0)
	Total	21
Semester-IV		
Course Code	Course Title	Credit Hours
EMS-206	Anatomy-IV	3(2-1)
MLT-402	Laboratory analysis	3(2-1)
EMS-207	Biochemistry IV	3(2-1)
QR-402	Quantitative Reasoning-II	3(3-0)
EMS-208	Pharmacognosy-II	3(2-1)
EMS-209	Physiology-IV	3(2-1)
EMS-210	Principles Of Eastern Medicine-IV	3(3-0)

SOC-301	Introduction to Sociology	2(2-0)
	Total	23

Semester-V		
Course Code	Course Title	Credit Hours
EMS-301	Materia Medica-I	3(2-1)
EMS-302	Mualijat (Medicine)-I	3(2-1)
EMS-303	Microbiology and Parasitology I	3(3-1)
EMS-304	Pathology-I	3(2-1)
EMS-305	Nutraceutical Preparations and Clinical Nutrition-I	3(2-1)
EMS-306	Pharmacy-I	3(2-1)
EMS-307	Aromatherapy	3(2-1)
TOQ-501	Translation of Quran	1(1-0)
	Total	21

Semester-VI		
Course Code	Course Title	Credit Hours
EMS-308	Pathology-II	3(2-1)
EMS-309	Materia Medica-II	3(2-1)
EMS-310	Microbiology And Parasitology II	3(2-1)
EMS-311	Mualijat (Medicine)-II	3(2-1)
EMS-312	Nutraceutical Preparations and Clinical Nutrition-II	3(2-1)
EMS-313	Pharmacy-II	3(2-1)

EPID-402	Epidemiology and Public health	3(2-1)
	Total	21

Semester-VII		
Course Code	Course Title	Credit Hours
EMS-401	Clinical Psychology And Psychiatry I	3(2-1)
EMS-402	Gynecology-I	3(2-1)
EMS-403	Materia Medica-III	3(2-1)
EMS-404	Mualijat (Medicine)-III	3(2-1)
EMS-405	Community Medicines	3(2-1)
EMS-406	Surgery-I	3(2-1)
NS-402	The Science of Global Challenges	3(2-1)
	Total	21

Semester-VIII		
Course Code	Course Title	Credit Hours
EMS-407	Gynecology-II	3(2-1)
EMS-408	Materia Medica-IV	3(2-1)
EMS-409	Mualijat (Medicine)-IV	3(2-1)
EMS-410	Forensic Medicine and Toxicology	3(2-1)
EMS-411	Surgery-II	3(2-1)
SCS-401	Civics & Community engagement	2(2-0)
EMS-412	Instrumental techniques in drug identification	3(3-0)

	Total	20
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Semester-IX		
Course Code	Course Title	Credit Hours
EMS-501	Clinical Diagnostics-I	3(2-1)
EMS-502	Surgery-III	3(2-1)
EMS-503	Mualijat (Medicine)-V	3(2-1)
EMS-504	Obstetrics-I	3(2-1)
EMS-505	ENT	3(2-1)
EMS-506	Pediatrics-I	3(2-1)
SSH-304	Entrepreneurship	2(2-0)
	Total	20
Semester-X		
Course Code	Course Title	Credit Hours
EMS-507	Clinical Diagnostics-II	3(2-1)
EMS-508	Ophthalmology	3(2-1)
EMS-599	Capstone Project	3(0-6)
EMS-509	Mualijat (Medicine)-VI	3(2-1)
EMS-510	Obstetrics-II	3(2-1)
EMS-511	Pediatrics-II	3(2-1)
EMS-512	Surgery-IV	3(2-1)
	Total	21

SCHEME OF STUDIES FOR M.PHIL (BIOLOGY)

Code	Course Title	Credit Hours
BIOL-712	Principles of Biotechnology	3(2-2)
BIOL-713	Plant Reproductive Biology	3(3-0)
BIOL-714	Biosociology	3(2-2)
BIOL-715	Cacti and Succulents	3(2-2)
BIOL-716	Aromatic, Poisonous and Medicinal Plants	3(2-2)
BIOL-717	Plant Adaptation and Arid Environment	3(2-2)
BIOL-718	Neurology and Neurochemistry	3(2-2)
BIOL-719	Special Problem	1(1-0)
BIOL-720	Seminar-I Seminar-II	1(1-0)
BIOL-720	Seminar-I Seminar-II	1(1-0)
BIOL-721	Fish Biology	3(2-2)
BIOL-722	Host/Parasite Interactions in Animals	3(2-2)
BIOL-723	Immunology	3(2-2)
BIOL-725	Animal Reproductive Biology	3(2-2)
BIOL-726	Patho-physiology	3(2-2)
BIOL-727	Population Biology	2(2-0)
BIOL-729	General Pharmacology	3(2-2)
BIOL-730	Conservation of Phylodiversity	3(2-2)
BIOL-731	Molecular Endocrinology	3(3-0)
BIOL-732	Mytochondria and Plastids	3(3-0)
BIOL-733	Freshwater Biology	3(2-2)
BIOL-735	Physiology and Genetics of Biological Nitrogen Fixation	3(2-2)
BIOL-736	General Pharmacognosy	3(3-0)
BIOL-799	Research & Thesis (M.Phil)	10 (0-20)

SCHEME OF STUDIES FOR M.PHIL (BOTANY)

Code	Course Title	Credit Hours
BOT-701	Diversity in Non-Vascular Plants	3(2-2)
BOT-702	Plant and Cell Physiology-I	3(2-2)
BOT-703	Plant and Cell Physiology-II	3(2-2)
BOT-704	Phytosociology	3(2-2)
BOT-705	Plant Taxonomy and Embryology	3(2-2)
BOT-706	Diversity in Vascular Plants	3(2-2)
BOT-707	Plant Anatomy	3(2-2)
BOT-708	Mycology and Plant Pathology	3(2-2)
BOT-709	Plant Ecology	3(2-2)
BOT-710	Ethnobotany	3(2-2)
BOT-711	Environmental Pollution	3(2-2)
BOT-712	Research Planning and Report Writing	3(1-4)
BOT-713	Medicinal Plants of Pakistan	3(2-2)
BOT-714	Molecular Plant Development	3(3-0)
BOT-715	Phytogeography	3(2-2)
BOT-716	Research Techniques and Instrumentation	3(2-2)
BOT-717	Phytohormons	3(2-2)
BOT-718	Arid Zone Ecology	3(2-2)
BOT-719	Special Problem	1(1-0)
BOT-720	Seminar-I	1(1-0)
BOT-720	Seminar-II	1(1-0)
BOT-721	Stress Physiology	3(2-2)
BOT-722	Plant Nutrition	3(2-2)
BOT-723	Advances in Plant Physiology	3(3-0)
BOT-724	Molecular Basis of Morphogenesis	3(3-0)
BOT-725	Molecular Advances in Phytosystematics	3(3-0)
BOT-726	Environmental Toxicology and Bioremediation	3(2-2)
BOT-727	Environmental Biotechnology	3(3-0)
BOT-728	Principles of Genome Analysis and Genomics	3(3-0)
BOT-729	Biology of Halophytes	3(2-2)
BOT-730	Environmental Plant Physiology	3(2-2)

BOT-731	Conservation and Management of Plant Resources	3(1-4)
BOT-732	Plant Proteomics	3(2-2)
BOT-733	Physiological Genetics of Plants	3(3-0)
BOT-734	Forensic Botany	3(3-0)
BOT-735	Plant-Microbe Interactions	3(2-2)
BOT-736	Plant Systematics	3(2-2)
BOT-737	Applied Ethnobotany	3(2-2)
BOT-738	Advances in Phycology	3(2-2)
BOT-739	Nanobiotechnology	3(2-2)
BOT-740	Biosafety, Biopolicy and Bioethics	3(3-0)
BOT-741	Systematics of Angiosperms	3(3-0)
BOT-799	Thesis	10 (0-20)

SCHEME OF STUDIES FOR M.PHIL (ZOOLOGY)

Code	Course Title	Credit Hours
ZOOL-712	Clinical Endocrinology	3(2-2)
ZOOL-713	Clinical Bacteriology	3(2-2)
ZOOL-714	Medical Virology	3(2-2)
ZOOL-715	Faunal Biodiversity of Pakistan	3(2-2)
ZOOL-716	Museology	3(0-6)
ZOOL-717	Reproductive Physiology	3(2-2)
ZOOL-718	Applied Reproductive Physiology	3(2-2)
ZOOL-719	Special Problem	1(1-0)
ZOOL-720	Seminar-I	1(1-0)
ZOOL-720	Seminar-II	1(1-0)
ZOOL-721	Helminthology and Protozoology	3(2-2)
ZOOL-722	Wildlife Conservation and Management	3(2-2)
ZOOL-723	Aquaculture System Management	3(2-2)
ZOOL-724	Fish Nutrition and Health	3(2-2)
ZOOL-725	Human Genetics	3(2-2)
ZOOL-726	Ecological and Microbial Genetics	3(2-2)

ZOOL-727	Epidemiology of Animal Parasites	3(2-2)
ZOOL-728	Cellular and Molecular Physiology	3(3-0)
ZOOL-730	Quantitative Zoology	3(2-2)
ZOOL-731	Behavioral Ecology	3(3-0)
ZOOL-732	Herpetology	3(2-2)
ZOOL-733	Ornithology	3(2-2)
ZOOL-734	Mammalogy	3(2-2)
ZOOL-735	Advances in Aquaculture	3(3-0)
ZOOL-737	Limnology	3(2-2)
ZOOL-738	Wildlife Ecology	3(3-0)
ZOOL-739	Wildlife Techniques & Data Analysis	3(3-0)
ZOOL-740	Molecular Parasitology	3(3-0)
ZOOL-741	Vector Biology	3(2-2)
ZOOL-742	Animal Diversity and Conservation	3(2-2)
ZOOL-743	Population Genetics	3(2-2)
ZOOL-799	Thesis	10(0-20)

SCHEME OF STUDIES FOR M.PHIL (CHEMISTRY)

Code	Course Title	Credit Hours
CHEM-701	Medicinal Chemistry	3(3-0)
CHEM-702	Retrosynthesis	3(3-0)
CHEM-703	Reactive Intermediates	3(3-0)
CHEM-704	Natural Products	3(3-0)
CHEM-705	Polymer Chemistry	3(3-0)
CHEM-706	Total Synthesis	3(3-0)
CHEM-707	Pericyclic Reaction	3(3-0)
CHEM-708	Protective Groups in Organic Synthesis	3(3-0)
CHEM-709	Advanced Heterocycles	3(3-0)
CHEM-710	Advanced Stereochemistry	3(3-0)

CHEM-711	Advance Analytical techniques	3(3-0)
CHEM-712	Nanochemistry and Nanomaterials	3(3-0)
CHEM-713	Electrode Processes	3(3-0)
CHEM-714	Molecular Spectroscopy	3(3-0)
CHEM-715	Photochemistry	3(3-0)
CHEM-716	Solution Chemistry	3(3-0)
CHEM-717	Advanced Atomic Spectroscopy	3(3-0)
CHEM-718	Colloids and Surfactants	3(3-0)
CHEM-721	Theoretical and Computational Chemistry	3(3-0)
CHEM-722	Inorganic Material Chemistry	3(3-0)
CHEM-723	Modern Aspects of Chemical Kinetics	3(3-0)
CHEM-724	Physico-Organic Chemistry and Reaction Mechanism	3(3-0)
CHEM-725	Modern Trends in Organic Synthesis	3(3-0)
CHEM-726	Physical Chemistry of High Polymers	3(3-0)
CHEM-727	Solid State Chemistry	3(3-0)
CHEM-728	Chemistry of Organometallic Compounds	3(3-0)
CHEM-729	Kinetics and Mechanisms of Inorganic Reactions	3(3-0)
CHEM-730	Bio-Inorganic Chemistry	3(3-0)
CHEM-731	Environmental Analysis	3(3-0)
CHEM-732	Techniques for surface analysis	3(3-0)
CHEM-733	Analysis and Characterization of Polymers	3(3-0)
CHEM-734	Composite Materials	3(3-0)
CHEM-735	Medicinal Inorganic Chemistry	3(3-0)
CHEM-737	Advanced Food Packaging Chemistry	3(3-0)
CHEM-799	Thesis	10(0-20)

SCHEME OF STUDIES FOR M.PHIL (MATHEMATICS)

Code	Course Title	Credit Hours
MATH-751	Advanced Functional Analysis	3(3-0)
MATH-752	Advanced Ring Theory	3(3-0)
MATH-753	Mathematical Techniques for Boundary Value Problem	3(3-0)
MATH-754	Integral Equations	3(3-0)
MATH-755	Advanced Real Analysis	3(3-0)
MATH-756	Advanced Partial Differential Equations	3(3-0)
MATH-757	Numerical Solution of Ordinary Differential Equations	3(3-0)
MATH-758	Perturbation Methods	3(3-0)
MATH-759	Optimization Theory	3(3-0)
MATH-760	Advanced Topology	3(3-0)
MATH-761	Advanced Complex Analysis	3(3-0)
MATH-762	Modern Algebra and Applications	3(3-0)
MATH-763	Advanced Fluid Mechanics	3(3-0)
MATH-764	Non-Newtonian Fluid Mechanics	3(3-0)
MATH-765	Fixed Point Theory and Applications	3(3-0)
MATH-766	Mathematical Models in Biomathematics	3(3-0)
MATH-767	Financial Mathematics	3(3-0)
MATH-768	Advanced Topics in Graph Theory	3(3-0)
MATH-769	Finite Element Method	3(3-0)
MATH-770	Numerical Linear Algebra	3(3-0)
MATH-771	Numerical Solution of Partial Differential Equations	3(3-0)
MATH-774	Computational Fluid Dynamics	3(3-0)
MATH-775	Algebraic Number Theory	3(3-0)
MATH-776	Fuzzy Logic and Algebra	3(3-0)
MATH-777	Geometric Function Theory	3(3-0)
MATH-778	Cryptography	3(3-0)
MATH-719	Special Problem	1(1-0)

MATH-720	Seminar	1(1-0)
MATH-799	Thesis	10(0-20)

SCHEME OF STUDIES FOR M.PHIL (STATISTICS)

Code	Course Title	Credit Hours
STAT-751	Advanced Design and Analysis of Experiments	3(3-0)
STAT-752	Linear Models and Regression Analysis	3(3-0)
STAT-753	Applied Multivariate Analysis	3(3-0)
STAT-754	Advanced Bayesian Inference	3(3-0)
STAT-755	Probability and Survival Analysis	3(3-0)
STAT-756	Advanced Sampling Techniques	3(3-0)
STAT-757	Applied Statistical Inference	3(3-0)
STAT-758	Research Methods	3(2-2)
STAT-759	Categorical Analysis	3(3-0)
STAT-760	Computational Statistics	3(3-0)
STAT-719	Special Problem	1(1-0)
STAT-720	Seminar-I	1(1-0)
STAT-720	Seminar-II	1(1-0)
MATH-772	Applied Numerical Analysis	3(3-0)
MATH-773	Operations Research Models	3(3-0)
STAT- 761	Probability and Stochastic Process	3(3-0)
STAT- 762	Convergence in Probability	3(3-0)
STAT- 763	Advanced Machine Learning	3(3-0)
STAT-764	Statistical Packages	3(1-4)
STAT-765	Applied Smoothing Techniques	3(3-0)
STAT-768	Statistical Methods in Genomics	3(3-0)
STAT-769	Advanced Data Visualization	3(3-0)
STAT-770	Artificial Intelligence	3(3-0)
STAT-771	Neural Networks	3(3-0)
STAT-772	Advanced Spatial Data Analysis	3(3-0)

STAT-773	Functional Data Analysis	3(3-0)
STAT-774	Deep Reinforcement Learning	3(3-0)
STAT-775	Advanced Probability Theory	3(3-0)
STAT-776	Mathematical Modelling and Simulation	3(3-0)
STAT-777	Environmental Statistics	3(3-0)
STAT-778	Non-Parametric Statistics	3(3-0)
STAT-779	Multilevel Modelling	3(3-0)
STAT-780	Meta-analysis	3(3-0)
STAT-799	Thesis	6(6-0)

SCHEME OF STUDIES FOR PHD BIOLOGY, BOTANY & ZOOLOGY

Code	Course Title	Credit Hours
BOT-751	Integrated Biological Resource Management	3(3-0)
ZOOL-751	Project Planning, Monitoring & Evaluation	3(3-0)
ZOOL-752	Integrated Principles of Zoology	3(3-0)
STAT-701	Experimental Design & Computer Application	3(2-2)
BOT-720	Seminar-I, II	1(1-0)
ZOOL-720	Seminar-I, II	1(1-0)
ZOOL-753	Recent Advances in Animal Biotechnology	3(3-0)
ZOOL-754	Advances in Assisted Reproduction	3(3-0)
ZOOL-755	Biotechnology in Aquaculture and Fisheries	3(3-0)
ZOOL-756	Conservation Biology	3(2-2)
BIO-799	Thesis	50(0-100)
BOT-799	Thesis	50(0-100)
ZOOL-799	Thesis	50(0-100)

Faculty of Social Sciences

Incharge of the Faculty

Prof. Dr. Muhammad Imran Yousuf



Pakistan is passing through such a critical juncture of its history that its image in the social and economic front is not fairly soothing and stable in front of new generation on the one hand and among comity of civilized nations on the other hand. The country has no doubt made great progress in many economic and political fronts but the social profile of the communities living in various parts of the country is not worth appreciating because of the conflicts and chaos across various lines. In this context, there is dire need of social transformation and cohesion among masses so as to compete the world in sober and saluting manners.

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 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.

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 would act as an external window for other institutes and funding bodies for providing advisory and policy services. Capacity building programmes 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 being started very soon. A Policy Incubation Centre (PIC) 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 in Pakistan.

DEPARTMENT OF ECONOMICS AND AGRICULTURAL ECONOMICS

Professor
Assistant Professors

Dr. Ikram Ali Malik
Dr. Gulnaz Hameed
Dr. Saima Asad
Dr. Safdar Hussain
Dr. Majid Ali
Dr. Alia Afzal
Dr. Bashir Ahmad Khan
Dr. Nasir Mahmood
Dr. Muhammad Abdul Rahman

Lecturers

DEPARTMENT OF SOCIOLOGY

Chairman
Associate Professor
Assistant Professor
Lecturers

Dr. Mazhar Hussain Bhutta
Dr. Aneela Afzal
Dr. Irfan Mahmood Janjua
Dr. Faria Faisal
Ms. Sidra Umar
Ms. Namra Khan



DEPARTMENT OF HUMANITIES

Chairman
Lecturers

Prof. Dr. Ghulam Hussain
Ms. Salma Shujeb Akhter
Mr. Yasir Iqbal
Ms. Ainee Rubab
Ms. Ayesha Hassan
Ms. Fariha Saghir

DEPARTMENT OF EDUCATION

Chairperson
Professor
Associate Professor
Assistant Professor

Lecturers

Dr. Qaisara Parveen
Dr. Muhammad Imran Yousuf
Dr. Almas Kiani
Dr. Muhammad Arshad Dahar
Dr. Muhammad Imran
Dr. Sumaira Kayani
Dr. Tehsin Ehsan
Mr. Muhammad Adnan Riaz
Ms. Nazia Perveen
Ms. Shahida Yousaf
Rao Khalid Pervaiz



DEPARTMENT OF ANTHROPOLOGY

Chairman
Assistant Professor
Lecturers

Dr. Abid Ghafoor Chaudhry
Dr. Nazia Rafiq
Dr. Mahwish Zeeshan
Ms. Rabia Jawed
Mr. Muhammad Riaz

Bachelor of Science (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 Bachelor 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 15 credits hours in a semester and

maximum 18 credit hours.

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 45% 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 they 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 25 years of age on 1st date of semester of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

To remain on the roll of the University a student shall require 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	2.25
8th	2.50



A. Academic Standing:

Grade Point Average

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

B. 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.

Bachelor of Education (Honors)

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

1. Minimum Requirements for Award of Bachelor of Education (Honors) Degree

- (i) The duration of the Course for completing the course for the degree of Bachelor of Education (Honors) 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 15 credit hours in a semester and maximum 21 credit hours as per HEC undergraduate policy.

2. Admission and Registration:-

i. Minimum Academic Requirement:-

A person holding Intermediate or an equivalent certificate from any recognized Institute/College with at least 45% marks excluding Hafiz-e-Quran, or any other marks specified shall be eligible for admission to Bachelor of Education (Honors).

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.

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

iii. Number of seats will be 70 (35 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 25 years of age on 1st date of semester of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

To remain on the roll of the University a student shall require 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	2.25
8th	2.50



Academic Standing:

Grade Point Average

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

Bachelor of Science (Anthropology/Sociology/Public Health/Fine Arts)

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

Minimum Requirements for Award of BS (Anthropology/ Sociology/ Public Health/ Fine Arts) Degree

- (i) The duration of the Course for completing the course for the degree of Bachelor of Science (Anthropology/ Sociology/ Public Health/ Fine Arts) 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 15 credits hours in a semester and maximum 18 credit hours.

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

A person holding Intermediate or an equivalent certificate from any recognized Institute/College with at least 45% marks excluding Hafiz-e-Quran, or any other marks specified shall be eligible for admission to Bachelor of Education (Honors).

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

Admission Authority:-

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

AGE: A candidate must not be more than 25 years of age on 1st date of semester of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

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



Academic Standing:

Grade Point Average

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

Master of Philosophy (M.Phil)

In Anthropology, Economics, Education and Sociology with a minimum of 4 and maximum of 8 semesters duration for full 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.
 - ii. 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.
- To remain on the roll of the University a student shall require to maintain the following minimum CGPA in each semester.

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

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.

Ph.D.

Ph.D. degree program in the disciplines of Economics, Agricultural Economics, Anthropology, Education and Sociology with a minimum of 6 semesters duration and maximum 16 semesters duration.

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.

SCHEME OF STUDIES FOR BACHELOR OF FINE ARTS

Semester-I		
Course Code	Course Title	Credit Hours
	Drawing I: Line, Form & Observation	3(0-3)
	Design Fundamentals I (2D Composition)	3(0-3)
	Color Theory & Perception	2(2-0)
	History of Art I: Prehistoric to Medieval	2(2-0)
	English Composition & Critical Reading	2(2-0)
	Digital Literacy for Creatives	3(0-3)
	Pakistan Studies	2(2-0)
	Total	17

Semester-II		
Course Code	Course Title	Credit Hours
	Drawing II: Perspective & Object Rendering	3(0-3)
	Design Fundamentals II (3D & Spatial Studies)	3(0-3)
	Visual Literacy & Semiotics	2(2-0)
	History of Art II: Renaissance to Modernism	2(2-0)
	Islamic Studies / Ethics	2(2-0)
	Digital Tools for Design (Adobe Suite)	2(0-2)
	Communication & Presentation Skills	2(0-2)
	Total	16

Semester-III		
Course Code	Course Title	Credit Hours
	Painting I (Oil & Acrylic)	3(0-3)
	Sculpture I (Clay / Relief)	3(0-3)
	Printmaking I (Monoprint & Woodcut)	3(0-3)
	Art Theory I: Modernism & Identity	2(2-0)
	Elective (Photography / Calligraphy)	2(0-2)
	Total	13

Semester-IV		
Course Code	Course Title	Credit Hours
	Life Drawing	3(0-3)
	Sculpture II (Assemblage / Found Objects)	3(0-3)
	Painting II (Mixed Media / Conceptual)	3(0-3)
	Art Theory II: Postmodernism & Contemporary Practices	2(2-0)
	Elective (Collage / Digital Illustration)	2(0-2)
	Total	13

Semester-V		
Course Code	Course Title	Credit Hours
	Visual Art Studio I (Independent Practice)	4(0-4)
	Art Writing & Critique	2(1-1)
	Installation Art	3(1-2)
	Research Methods in Visual Art	2(1-1)
	Elective (Video Art / Sound Art)	2(0-2)
	Total	13

Semester-VI		
Course Code	Course Title	Credit Hours
	Visual Art Studio II	4(0-4)
	Curatorial Practice & Display	2(1-1)
	Site-Specific & Social Art	3(1-2)
	Internship / Community Art Project	2(1-1)
	Elective (Performance Art)	2(0-2)
	Total	13

Semester-VII		
Course Code	Course Title	Credit Hours
	Studio Practice III - Capstone	6(0-6)
	Critical Theory & Global Art	3(3-0)
	Professional Practice (Funding, Proposals, Artist CV)	2(2-0)
	Total	11

Semester-VIII		
Course Code	Course Title	Credit Hours
	Studio Practice IV - Final Thesis & Degree Show	8(0-8)
	Final Report	3(3-0)
	Portfolio Development & Presentation	2(2-0)
	Total	13

SCHEME OF STUDIES FOR BACHELOR OF SCIENCE (ECONOMICS)

Semester-I		
Course Code	Course Title	Credit Hours
SOC-301	Introduction to Sociology	2(2-0)
ENG-301	Functional English	3(3-0)
QR-401	Quantitative Reasoning-I	3(3-0)
IS-301	Islamic Studies	2(2-0)
CS-301	Introduction to Computing	3(3-0)
SCS-301	Social and Civic Services	3(3-0)
ECON-301	Introduction to Economics	3(3-0)
	Total	19

Semester-II		
Course Code	Course Title	Credit Hours
QR-402	Quantitative Reasoning-II	3(3-0)
SSH-302	Ideology and constitution of Pakistan	2(2-0)
ENG-302	Communication Skills	3(3-0)
ANTH-506	Economic Anthropology	3(3-0)
MGT-444	Digital Entrepreneurship	3(3-0)
ECON-303	Economy of Pakistan	3(3-0)
	Total	17

Semester-III		
Course Code	Course Title	Credit Hours
ECON-401	Introduction to Microeconomics	3(3-0)
ECON-403	Introduction to Macroeconomics	3(3-0)
ECON-405	Islamic Economics	3(3-0)
ECON-409	Environmental Economics	3(3-0)
MGT-351	Introduction to Marketing	3(3-0)
ECON-407	Introduction To Banking and Finance	3(3-0)
	Total	18

Semester-IV		
Course Code	Course Title	Credit Hours
ECON-404	Agricultural Economics	2(2-0)
ECON-402	Institutional Economics	3(3-0)
ECON-408	Development Economics -I	3(3-0)
ECON-406	Mathematics for Economist	3(3-0)
MGT-322	Financial Accounting	3(3-0)
ECON-410	Marketing System Analysis	3(2-2)
	Total	17

Semester-V		
Course Code	Course Title	Credit Hours
ECON-501	Advanced Microeconomics	3(3-0)
ECON-503	Advanced Macroeconomics	3(3-0)
ECON-505	Economic Problems of Pakistan	3(3-0)
ECON-507	Development Economics-II	3(3-0)
ECON-509	Econometrics-I	3(2-2)
ECON-511	Political Economy of Pakistan	3(3-0)
	Total	18

Semester-VI		
Course Code	Course Title	Credit Hours
ECON-502	International Economics	3(3-0)
ECON-504	Production Economics	3(3-0)
ECON-506	Public Finance	3(3-0)
ECON-510	Econometrics-II	3(2-2)
MGT-514	Introduction to Project Management	3(3-0)
MGT-644	Introduction to E-Commerce	3(3-0)
	Total	18

Semester-VII		
Course Code	Course Title	Credit Hours
ECON-603	Monetary Economics	3(3-0)
ECON-607	Natural Resource Economics	3(3-0)
ECON-605	Human Recourse Development	2(2-0)
ECON-609	Health Economics	3(3-0)
ECON-611	Research Methods in Economics	3(1-4)
ECON-609	Operation Research	3(3-0)
ECON-613	Topics in economic analysis	2(1-2)
	Total	17

Semester-VIII		
Course Code	Course Title	Credit Hours
ECON-610	Capstone Project	3(0-6)
ECON-612	Internship	3(0-6)
	Total	6

SCHEME OF STUDIES FOR BACHELOR OF SCIENCE (DIGITAL ECONOMICS)

Semester-I		
Course Code	Course Title	Credit Hours
ENG-301	Functional English	3(3-0)
SOS-301	Moral Foundations of Education	2(2-0)
SSH-301	Civics and Community Engagement	2(2-0)
DECON-301	Data Economics	3(3-0)
CS-100	Applications of Information and Communication Technologies	3(2-2)
FQ-301	Fehm-e-Quran-I	1(0-1)
SSH-303	Pakistan Studies	2(2-0)
	Total	19

Semester-II		
Course Code	Course Title	Credit Hours
DECON-302	Principles of Microeconomics	3(3-0)
DECON-304	Principles of Macroeconomics	3(3-0)
DECON-306	E-Commerce and Digital Markets	3(3-0)
ENG-302	Expository Writing	3(3-0)
IS-302	Islamic Studies/Ethics	2(2-0)
SOS-302	Seerat Studies	2(2-0)
SSH-304	Entrepreneurship	2(2-0)
FQ-302	Fehm-e-Quran - II	1(0-1)
	Total	19

Semester-III		
Course Code	Course Title	Credit Hours
DECON-409	Big Data Economics	3(3-0)
MGT-411	Principles of Management	3(3-0)
SSH-302	Ideology and Constitution of Pakistan	2(2-0)
QR-401	Quantitative Reasoning - I	3(3-0)
MGT-322	Financial Accounting	3(3-0)
DECON-405	Fundamentals of E-Commerce-I	3(3-0)
DECON-407	Public Policy & Digital Governance	2(2-0)
	Total	19

Semester-IV		
Course Code	Course Title	Credit Hours
DECON-404	Development Economics in the Digital Age	3(3-0)
NS-402	The Science of Global Challenges	3(3-0)
QR-402	Quantitative Reasoning - II	3(3-0)
STAT-402	Statistics for Economics	3(3-0)
ECON-406	Mathematics for Economists	3(3-0)
DECON-408	Behavioral Economics	3(3-0)
	Total	18

Semester-V		
Course Code	Course Title	Credit Hours
ECON-501	Microeconomics	3(3-0)
ECON-503	Macroeconomics	3(3-0)
DECON-505	Fundamentals of E-Commerce-II	3(3-0)
ECON-509	Econometric I	3(3-0)
DECON-511	Ethics, Cyber Laws and Digital Regulations	3(3-0)
DECON-515	FinTech and Digital Payment Systems	3(3-0)
	Total	18

Semester-VI		
Course Code	Course Title	Credit Hours
DECON-508	Artificial Intelligence and Economic Decision Making	3(3-0)
ECON-510	Econometrics II	3(3-0)
DECON-512	Sustainable & Green Digital Economy	3(3-0)
DECON-514	Research Methods in Digital Economics	3(2-2)
DECON-516	Labor Economics in Digital Economy	3(3-0)
DECON-518	Economics with AI Analysis	3(3-0)
DECON-520	Seminar	1(1-0)
	Total	19

Semester-VII		
Course Code	Course Title	Credit Hours
DECON-601	International Digital Trade & WTO Issues	3(3-0)
DECON-605	Blockchain and Crypto Economics	3(3-0)
DECON-607	Platform & Network Economics	3(3-0)
MGT-609	Business Law	3(3-0)
MGT-617	Entrepreneurship & Innovation	3(3-0)
DECON-619	Special Problem	1(1-0)
	Total	16

Semester-VIII		
Course Code	Course Title	Credit Hours
DECON-610	Capstone Project/Thesis	3(0-6)
DECON-612	Internship	3(0-6)
	Total	6

SCHEME OF STUDIES FOR BACHELOR OF EDUCATION (HONORS)

Semester-I		
Course Code	Course Title	Credit Hours
QR-401	Quantitative Reasoning - I	3(3-0)
NS-402	The Science of Global Challenges	3(2-1)
ENG-301	Functional English	3(3-0)
CSC-100	Applications of Information & Communication Technologies (ICT)	3(2-1)
EDU-301	Teaching Profession	3(3-0)
EDU-303	Inclusive Education	3(3-0)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
QR-402	Quantitative Reasoning - II	3(3-0)
EDU-302	Functional Urdu	2(2-0)
ENG-302	Expository Writing	3(3-0)
EDU-304	Contemporary Literacies	3(3-0)
EDU-306	Educational Psychology	3(3-0)
EDU-308	Education for Sustainable Development	3(3-0)
FQ-302	Fehm-e-Quran - I	1(0-1)
	Total	18
Semester-III		
Course Code	Course Title	Credit Hours
SOS-301	Moral Foundations of Education	2(2-0)
IS-302	Islamic Studies (Ethics for non-Muslim students)	2(2-0)
SSH-302	Ideology & Constitution of Pakistan	2(2-0)
EDU-401	Critical Thinking and Reflective Practices	3(3-0)
EDU-403	Curriculum Development	3(3-0)
EDU-405	Educational Policies and Plan of Pakistan	3(3-0)
EDU-407	Teaching of English	3(3-0)
FQ-301	Fehm-e-Quran - II	1(0-1)
	Total	19

Semester-IV		
Course Code	Course Title	Credit Hours
SSH-303	Pakistan Studies	2(2-0)
SSH-301	Civics & Community Engagement a) Scouting OR Emergency Training Community Service	2(1-1)
SSH-304	Entrepreneurship	2(2-0)
EDU-402	School Management	3(3-0)
EDU-404	Educational Assessment and Evaluation	3(3-0)
EDU-406	Teaching Practice/School Observation	2(0-2)
EDU-408	Teaching of Science	3(3-0)
	Total	17

Semester-V		
Course Code	Course Title	Credit Hours
ECON-505	Economic Problems of Pakistan	3(3-0)
SOC-509	Social Change and Transformation	3(3-0)
EDU-501	Foundation of Education	3(3-0)
EDU-503	Teaching of Art, Crafts and Calligraphy	3(3-0)
EDU-505	Early Childhood Education: History Theory & Practice	3(3-0)
	Total	15

Semester-VI		
Course Code	Course Title	Credit Hours
SOC-510	Sociology of Education	3(3-0)
EDU-502	Research Methods in Education	3(3-0)
EDU-504	Teaching of Urdu	3(3-0)
EDU-506	Teaching of Mathematics	3(3-0)
EDU-508	Child Care and Development	3(3-0)
	Total	15

Semester-VII		
Course Code	Course Title	Credit Hours
EDU-601	Teaching Practice-I	3(0-3)
EDU-603	Teaching of Social Studies and Islamiat	3(3-0)
EDU-605	Assessment of Learning in Early Years	3(3-0)
EDU-607	Technology in Early Childhood Education	3(3-0)
EDU-699	Capstone Project/Thesis	3(0-3)
	Total	15

Semester-VIII		
Course Code	Course Title	Credit Hours
EDU-602	Teaching Practice - II	3(0-3)
ANTH-624	Public Administration	3(3-0)
EDU-602	Models of Early Childhood Care and Education	3(3-0)
EDU-604	Creative Arts and Expression for Early learners	3(3-0)
EDU-610	Internship	3(0-3)
	Total	15

SCHEME OF STUDIES FOR BACHELOR OF EDUCATION (1.5 YEAR)

Semester-I		
Course Code	Course Title	Credit Hours
EDU-501	Foundation of Education	3(3-0)
EDU-303	Inclusive Education	3(3-0)
EDU-304	Contemporary Literacies	3(3-0)
EDU-502	Research Methods in Education	3(3-0)
SOC-510	Sociology of Education	3(3-0)
EDU-408	Teaching of Sciences	3(3-0)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
EDU-308	Education for Sustainable Development	3(3-0)
EDU-401	Critical Thinking and Reflective Practices	3(3-0)
EDU-403	Curriculum Development	3(3-0)
ANTH-624	Public Administration	3(3-0)
EDU-601	Teaching Practice-I	3(0-3)
EDU-699	Capstone Project/Thesis	3(0-3)
	Total	18

Semester-III		
Course Code	Course Title	Credit Hours
EDU-405	Educational Policies and Plan of Pakistan	3(3-0)
EDU-402	School Management	3(3-0)
EDU-404	Educational Assessment and Evaluation	3(3-0)
EDU-301	Teaching Profession	3(3-0)
EDU-306	Educational Psychology	3(3-0)
EDU-602	Teaching Practice-II	3(0-3)
	Total	18

SCHEME OF STUDIES FOR BS SOCIOLOGY

Semester-I		
Course Code	Course Title	Credit Hours
SOC-301	Introduction to Sociology	3(3-0)
SOC-303	Development of Social Thought	3(3-0)
STAT-301	Basics of Statistics	3(2-1)
CS-301	Introduction to Computing	3(2-1)
ENG-301	Functional English	3(3-0)
SOS-301	Moral Foundation of Education	2(2-0)
TOQ-301	Translation of Quran	1(1-0)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
SOC-302	Social Issues of Pakistan	3(3-0)
SOC-304	Rural Sociology	3(3-0)
ENG-302	Introduction to Expository Writing	3(3-0)
QR-401	Quantitative Reasoning-I	3(3-0)
SCS-302	Social and Civic Skills	2(2-0)
SSH-301	Ideology and Constitution of Pakistan	2(2-0)
	Total	16

Semester-III		
Course Code	Course Title	Credit Hours
SOC-401	Classical Sociological Theories	3(3-0)
SOC-405	Gender Studies	3(3-0)
SOC-403	Social Psychology	3(3-0)
QR-403	Quantitative Reasoning-I	3(3-0)
MGT-403	Entrepreneurship	2(2-0)
IS-301	Islamic Studies /Ethics	2(2-0)
TOQ-401	Translation of Quran	1(1-0)
	Total	19

Semester-IV		
Course Code	Course Title	Credit Hours
ECO-301	Introduction to Economics	2(2-0)
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)
	Total	17

Semester-V		
Course Code	Course Title	Credit Hours
EDU-503	Perspective of Education in Pakistan	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)
TOQ-501	Translation of Quran	1(1-0)
	Total	16

Semester-VI		
Course Code	Course Title	Credit Hours
SOC-502	Qualitative Research Methodology	3(3-0)
CRM-301	Introduction to Criminology	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-I	1(1-0)
	Total	15

Semester-VII		
Course Code	Course Title	Credit Hours
SOC-601	Diffusion of Innovation	3(3-0)
SOC-605	Industrial Sociology	3(3-0)
SOC-607	Political Sociology	3(3-0)
SOC-619	Special Problem	1(1-0)
TOQ-601	Translation of Quran	1(1-0)
ANTH-301	Concepts in Anthropology	3(3-0)
SOC-390	Seminar-II	1(1-0)
	Total	15

Semester-VIII		
Course Code	Course Title	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	Internship	3(0-6)
SOC-610	Capstone Project/Thesis	3(0-6)
	Total	15

SCHEME OF STUDIES FOR BS ANTHROPOLOGY

Semester-I		
Course Code	Course Title	Credit Hours
ANTH-301	Concepts in Anthropology	3(3-0)
ANTH-303	Anthropology of Pakistan	3(3-0)
ENG-301	Functional English	3(3-0)
STAT-301	Basics of Statistics	3(2-1)
CS-301	Introduction to Computing	3(2-1)
SOS-301	Moral Foundation of Education	2(2-0)
FQ-301	Fehm ul Quran I	1(1-0)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
ANTH-302	Physical Anthropology	3(3-0)
ANTH-304	Micro Anthropology	3(3-0)
ANTH-306	Political Science	3(3-0)
ENG-302	Introduction to Expository Writing	3(3-0)
QR-401	Quantitative Reasoning-I	3(3-0)
SCS-302	Social and Civic Skills	2(2-0)
SSH-301	Ideology and Constitution of Pakistan	2(2-0)

FQ-302	Fehm ul Quran II	1(1-0)
	Total	20

Semester-III		
Course Code	Course Title	Credit Hours
ANTH-401	Social Psychology	3(3-0)
ANTH-403	Macro Anthropology	3(3-0)
ANTH-409	Quantitative Research in Social Anthropology	3(2-2)
ANTH-407	International Relations	3(3-0)
QR-403	Quantitative Reasoning-I	3(3-0)
MGT-403	Entrepreneurship	2(2-0)
IS-301	Islamic Studies /Ethics	2(2-0)
TOQ-401	Translation of Quran	1(1-0)
	Total	20

Semester-IV		
Course Code	Course Title	Credit Hours
ECO-301	Introduction to Economics	2(2-0)
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)

ANTH-412	Introduction to Public Health	3(3-0)
ANTH 414	Community Development and Social Work	3(3-0)
	Total	19

Semester-V		
Course Code	Course Title	Credit Hours
EDU-503	Perspective of Education in Pakistan	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)
ANTH-516	Law and Constitutional Studies	3(3-0)
TOQ-501	Translation of Quran	1(1-0)
	Total	19

Semester-VI		
Course Code	Course Title	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-510	Cultural and Human Ecology	3(3-0)
ANTH-514	Anthropology of Potohar	3(3-0)
ANTH-520	Seminar I	1(1-0)

ANTH-524	Agrarian Societies and Food Security	3(3-0)
	Total	19

Semester-VII		
Course Code	Course Title	Credit Hours
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)
ANTH-623	Social and Public Policy	3(3-0)
ANTH-624	Public Administration	3(3-0)
ANTH-625	Environmental Anthropology	3(3-0)
	Total	19

Semester-VIII		
Course Code	Course Title	Credit Hours
ANTH-610	Capstone Project	3(0-6)
ANTH-629	Internship	3(0-6)
	Total	6

SCHEME OF STUDIES FOR BS (PUBLIC HEALTH)

Semester-I		
Course Code	Course Title	Credit Hours
MAPH-301	Concepts in Anthropology	3(3-0)
MAPH-302	Introduction to Public Health	3(3-0)
STAT-301	Basics of Statistics	2(2-0)
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)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
MAPH-303	Bio-cultural Anthropology	3(3-0)
MAPH-304	Physical Anthropology	3(3-0)
SOC-308	Introduction to Sociology	3(3-0)
CS-301	Introduction to Computing	3(3-0)
MATH-302	Mathematics - II	3(3-0)
ENG-302	Communication Skills	3(3-0)
SSH-302	Pakistan Studies	2(2-0)
	Total	20

Semester-III		
Course Code	Course Title	Credit Hours
MAPH-401	Critical Medical Anthropology	3(3-0)
MAPH-402	Cultural Psychiatry	3(3-0)
MAPH-403	Ethno-medicine and Medical Pluralism	3(3-0)
MAPH-404	Nutritional Anthropology	3(3-0)
MAPH-405	Research in Medical Anthropology	3(2-2)
MGT-411	Introduction to Management	3(3-0)
	Total	18

Semester-IV		
Course Code	Course Title	Credit Hours
MAPH-406	Geriatrics	3(3-0)
MAPH-407	Applied Medical Anthropology	3(3-0)
MAPH-408	Demography	3(3-0)
MAPH-409	Anthropology of Mental Health	3(3-0)
MAPH-410	Health System of Pakistan	3(3-0)
STAT-402	Introduction to Statistics	3(3-0)
	Total	18

Semester-V		
Course Code	Course Title	Credit Hours
MAPH-501	Culture, Health Policy & Development	3(3-0)
MAPH-502	Myths and Social Stigma	3(3-0)
MAPH-503	Health and Religion	3(3-0)
MAPH-504	Personal Hygiene	3(3-0)
MAPH-505	Theory in Medical Anthropology	3(3-0)
ANTH-611	NGOs and Social Development	3(3-0)
	Total	18

Semester-VI		
Course Code	Course Title	Credit Hours
MAPH-506	Epidemics & Pandemics	3(3-0)
MAPH-507	Qualitative Research I	3(2-2)
MAPH-508	Quantitative Research I	3(2-2)
MAPH-509	Dental Anthropology	3(3-0)
MAPH-510	Reproductive Health & Maternal Well being	3(3-0)
MGT-514	Introduction to Project Management	3(3-0)
	Total	18

Semester-VII		
Course Code	Course Title	Credit Hours
MAPH-601	Skeletal Anthropology	3(3-0)
MAPH-602	Quantitative Research II	3(2-2)
MAPH-603	Qualitative Research II	3(2-2)
MAPH-605	Population and Demography	3(3-0)
MAPH-606	Anthropology and Philosophy	3(3-0)
MAPH-607	Scientific Writing	3(3-0)
	Total	18

Semester-VIII		
Course Code	Course Title	Credit Hours
PH-690	Internship	3(0-6)
PH-691	Capstone Project	3(0-6)
	Total	6

SCHEME OF STUDIES FOR M.PHIL (ECONOMICS)		
Code	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-755	Mathematical Programing and Applications	3(3-0)
ECON-756	Preparation of Projects and Evaluation	3(3-0)
ECON-757	Preparation of Projects and Evaluation	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)
ECON-720	Seminar	1(1-0)
STAT-701	Experimental Statistics	3(3-0)
STAT-702	Bio Statistical Analysis	3(3-0)
ECON-799	Research Thesis	10(0-20)
Minor Courses		
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 M.SC. (HONS.)
AGRICULTURAL ECONOMICS**

Code	Course Title	Credit Hours
AEC-751	Microeconomic Analysis	3(3-0)
AEC-752	Macroeconomic Analysis	3(3-0)
AEC-753	Mathematical Methods in Economics	3(3-0)
AEC-754	Econometrics Techniques and Applications	3(3-0)
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)
STAT-701	Experimental Statistics	3(3-0)
STAT-702	Bio Statistical Analysis	3(3-0)
AEC-799	Research Thesis	10(0-20)
Minor Courses		
ECON-755	Mathematical Programing and Applications	3(3-0)
ECON-756	Preparation of Projects and Evaluation	3(3-0)
ECON-757	Preparation of Projects and Evaluation	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)

SCHEME OF STUDIES FOR M.PHIL. ANTHROPOLOGY		
Code	Course Title	Credit Hours
ANTH 731	Theoretical Debates in Anthropology	3(3-0)
ANTH 732	Social Theory	3(3-0)
ANTH 733	Methodological Issues in Anthropology	3(2-2)
ANTH 734	Methods in Anthropological Research	3(3-0)
ANTH-719	Special Problem	1(1-0)
ANTH 720	Seminar I	1(1-0)
ANTH 720	Seminar II	1(1-0)
ANTH 799	Thesis	10(0-20)
Optional Courses		

ANTH 735	Agrarian Societies & Culture	3(3-0)
ANTH 736	Indigenous Knowledge System	3(3-0)
ANTH 737	Issues in Rural Development Policy	3(3-0)
ANTH 738	Cultural Geography & Human Ecology	3(3-0)
ANTH 739	Ethnology of Pakistan	3(3-0)
ANTH 740	Historical Anthropology & Cultural History	3(3-0)
ANTH 741	Paradigms of Development	3(3-0)
ANTH 742	Political Process and Human Rights	3(3-0)
ANTH 743	Cross Cultural Analysis	3(3-0)
ANTH 744	Development Practices	3(3-0)
ANTH 745	Social Gerontology	3(3-0)
ANTH 746	Modernity, Medicine and Health	3(3-0)
ANTH 747	Climate Change & Human Adaptation	3(3-0)
ANTH 748	Disaster Risk Reduction	3(3-0)

SCHEME OF STUDIES FOR M.PHIL. SOCIOLOGY

Code	Course Title	Credit Hours
SOC-731	Advanced Research Methods of Social Sciences	3(2-2)
SOC-732	Sociology of Development	3(3-0)
SOC-733	Industrial Sociology	3(3-0)
SOC-734	Sociology of Politics	3(3-0)
SOC-735	Sociology of Human Rights	3(3-0)
SOC-736	Religiosity	3(3-0)
SOC-737	Medical Sociology	3(2-2)
SOC-738	Sociology of Gender Issues	3(3-0)
SOC-739	Sociology of Migration	3(3-0)
SOC-740	Advanced Sociological Theory	3(3-0)
SOC-741	Qualitative Analysis	3(2-2)
SOC-742	Scientific Report Writing	2(2-0)
SOC-743	Clinical Sociology	3(3-0)
SOC-744	Social Psychology-II	3(3-0)

SOC-719	Special Problem	1(1-0)
SOC-720	Seminar-I	1(1-0)
SOC-720	Seminar-II	1(1-0)
SOC-799	Thesis	10(0-20)

SCHEME OF STUDIES FOR M.PHIL. EDUCATION

Code	Course Title	Credit Hours
EDU-741	Foundations of Education	4(4-0)
EDU-742	Curriculum Development and Design	4(4-0)
EDU-743	Advanced Methods of Research in Social Sciences	4(3-2)
EDU-744	Advanced Statistics in Social Sciences	4(3-2)
EDU-745	Educational Planning	4(4-0)
EDU-746	Instructional Technology and Teaching Techniques	3(3-0)
EDU-747	Education and Development	3(3-0)
EDU-748	Teacher Education in Comparative Perspective	3(3-0)
EDU-749	Education in Transitional Societies	3(3-0)
EDU-750	Economics of Education	3(3-0)
EDU-751	Higher Education in Comparative Perspective	3(3-0)
EDU-752	Educational and Psychological Testing	3(3-0)
EDU-719	Special Problem	1(1-0)
EDU-720	Seminar-I	1(1-0)
EDU-720	Seminar-II	1(1-0)
EDU-799	Thesis	10(0-20)

SEMESTER WISE BREAKUP M.PHIL EDUCATION

Semester-I

Course Code	Course Title	Credit Hours
EDU-743	Advanced Methods of Research in Social Sciences	3(2-2)
EDU-745	Instrument Development	3(3-0)
EDU-747	Advanced Statistics in Social Sciences	3(2-2)
EDU-749	Scientific Report Writing	3(3-0)
EDU-721	Seminar-I	1(1-0)
FQ-701	Fehm-e-Quran I	1(0-1)
	Total	14

Semester-II

Course Code	Course Title	Credit Hours
EDU-748	Teacher Education in Comparative Perspective	3(3-0)
EDU-746	Educational Technology and Techniques of Teaching	3(3-0)
EDU-744	Professional Development: Guidance and Counselling	3(3-0)
EDU-742	Teacher Education: Problems and Prospects	3(3-0)
EDU-720	Seminar-II	1(1-0)
FQ-702	Fehm-e-Quran II	1(0-1)
	Total	14

Semester-III		
Course Code	Course Title	Credit Hours
EDU-799	Thesis	10(0-20)
	Total	10

Semester-IV		
Course Code	Course Title	Credit Hours
EDU-799	Thesis	10(0-20)
	Total	10

SCHEME OF STUDIES FOR PH.D ECONOMICS		
Code	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)
STAT-772	Mathematical Statistics	3(3-0)
ECON-799	Research Thesis	50(0-100)

SCHEME OF STUDIES FOR PH.D AGRICULTURAL ECONOMICS

Code	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)
STAT-772	Mathematical Statistics	3(3-0)
AGR-717	Integrated Agriculture	3(3-0)
AEC-799	Research Thesis	50(0-100)

SCHEME OF STUDIES FOR PH.D ANTHROPOLOGY

Code	Course Title	Credit Hours
ANTH-801	Anthropology and Culture	3(3-0)
ANTH-802	Inductive Reasoning & Qualitative Research in Anthropology	3(2-2)
ANTH-803	Deductive Reasoning & Qualitative Research in Anthropology	3(2-2)
ANTH-804	Philosophy in Anthropology	3(3-0)
ANTH-805	Anthropology and Orientalism	3(3-0)
ANTH-806	State, Globalization and Pakistan	3(3-0)
ANTH-807	Anthropocene and Potohar: A Regional Perspective	3(3-0)
ANTH-808	Anthropology of Islam: Exploring Diversity and Change	3(3-0)
ANTH-809	South Asia and Muslim Civilization: A Historical and	3(3-0)

	Cultural Perspective	
ANTH-810	Medical Anthropology & Public Health	3(3-0)
ANTH-811	Anthropology, Democracy and Global Governance	3(3-0)
ANTH-812	Change, Development and Future of Humanity	3(3-0)
ANTH-819	Special Problem	1(1-0)
ANTH-820	Seminar-I	1(1-0)
ANTH-820	Seminar-II	1(1-0)
ANTH-899	Thesis	10(0-20)

SCHEME OF STUDIES FOR PH.D SOCIOLOGY

Code	Course Title	Credit Hours
SOC-770	Advanced Sociological Theories	3(3-0)
SOC-771	Advanced Methods of Social Research	3(3-0)
SOC-772	Social Issues of Pakistan	3(3-0)
SOC-773	Social and Public Policy	3(3-0)
SOC-774	Sociology of Globalization	3(3-0)
SOC-775	Population Techniques and Analysis	3(3-0)

SOC-776	Sociology of Gender and Development	3(2-2)
SOC-777	Agro Food System	3(3-0)
SOC-778	Sociology of Work and Industry	3(3-0)
SOC-779	Philosophy of Social Sciences	3(3-0)
SOC-780	Advanced Qualitative Analysis	3(2-2)
SOC-781	Advanced Qualitative Analysis	2(2-0)
SOC-799	Thesis	50(0-100)

SCHEME OF STUDIES FOR PH.D EDUCATION

Code	Course Title	Credit Hours
EDU-761	Qualitative and Quantitative Research Design in Education	3(3-0)
EDU-762	Educational Studies	3(3-0)
EDU-763	Global Challenges in Education	3(3-0)
EDU-764	Evolution of Early Childhood Education	3(3-0)
EDU-765	Planning, Management and Instruction in Early Childhood Education	3(3-0)
EDU-766	Growth and Developing of Children	3(3-0)
EDU-767	Educational Policy and Planning	3(3-0)
EDU-768	Instructional Leadership and Supervision	3(3-0)
EDU-769	Human Resource Management in Education	3(3-0)
EDU-770	Modern Assessment and Evaluation	3(3-0)
EDU-771	Test Theories and Designs	3(3-0)
EDU-772	Test Construction and Standardization	3(3-0)
EDU-773	Curriculum Applications and Change	3(3-0)

EDU-774	Curriculum Theories and Models	3(3-0)
EDU-775	Curriculum and Instruction	3(3-0)
EDU-720	Seminar-I	1(1-0)
EDU-720	Seminar-II	1(1-0)
EDU-725	Applied Statistics in Education	3(3-0)
EDU-799	Research Thesis	50(0-100)

FACULTY OF VETERINARY & ANIMAL SCIENCES

Dean of the Faculty Prof. Dr. Arfan Yousaf



Welcome to the Faculty of Veterinary and Animal Sciences (FV&AS) at Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi. The FV&AS was established in 2006 under HEC funded project of Rs.468 millions. The faculty offers various courses in different disciplines of veterinary & animal science and to conduct research on all aspects of production and veterinary sciences particularly associated with the arid regions of the Punjab. The faculty is comprised of five departments viz., Department of Veterinary Biomedical Sciences (comprising Sections of Anatomy and Histology, Physiology, Pharmacology), Department of Pathobiology (Microbiology, Parasitology, Pathology), Department of Clinical Studies (Medicine, Surgery and Radiology, Theriogenology) were established at FV&AS.

The FV&AS is committed for excellence in its various programs. The faculty has one on campus Pet Clinic/Veterinary Animal Teaching Hospital. Of course, the FV&AS Pet's Clinic is probably best known in the twin cities (Islamabad, Rawalpindi) and gaining popularity as indicated by increase in the number of daily outdoor cases. One large animals Veterinary Hospital and a small Livestock Farm is located at Rawat (20 kilometer away from the main campus). The on campus operation theatre and X-ray facilities are also available. The state of the art equipments are installed in the laboratories of different departments. In addition to all facilities, FV&AS have signed number of MoUs with national and international organizations including, NRSP, ILRI, Dairy and Rural Development Foundation.

At the time of establishment in 2006, FV&AS offered five years Doctor of Veterinary Medicine (DVM) degree program and M.Phil & Ph.D degree in Poultry Science. In near future the FV&AS is going to start post-graduate degree programs in various disciplines of Veterinary and Animal Sciences. Our well qualified faculty members are training the future scientists and creating new knowledge for the uplift and welfare of the society. The FV&AS is accredited by the Pakistan Veterinary Medical Council (PVMC) Pakistan in 2012. This program continues to excel in providing educational, research and training opportunities to future veterinarians and animal scientists. The qualified individuals will lead future efforts in public health, animal production, disease control, veterinary care, food safety, biotechnology, higher education, and research.

The FV&AS is progressing day by day. It is hoped that in future this faculty will emerge as a leading institute in the arid areas to produce highly qualified skilled manpower with robust increase in research output.

I wish you happy stay at the campus. May God bless you with a bright and prosperous career.

DEPARTMENT OF VETERINARY BIOMEDICAL SCIENCES

Chairman	Dr. Riaz Hussain Pasha
Associate Professor	Dr. Mansur Abdullah
Assistant Professors	Dr. Mazhar Ul Haq
	Dr. Evelyn Saba
Lecturers	Dr. Asif Riaz
	Dr. Mujeeb-Ur-Rehman Sohoo
	Dr. Zeeshan Akbar
	Ms. Sumaria Hassan
	Mr. Noor Muhammad Khan



DEPARTMENT OF PARASITOLOGY & MICROBIOLOGY

Chairman	Dr. Muhammad Ali Shah
Associate Professors	Dr. Murtaz-ul-Hasan
	Dr. Aayesha Riaz
	Dr. Saif Ur Rehman
	Dr. Muhammad Kamran
Assistant Professors	Dr. Muhammad Asif
	Dr. Zahid Manzoor

DEPARTMENT OF CLINICAL STUDIES

Professor	Dr. Arfan Yousaf
Chairman	Dr. M. Arif Zafar
Assistant Professors	Dr. Fahad Raza
	Dr. Adnan Hassan Tahir
	Dr. Zahid Naseer
Lecturers	Dr. Asghar Khan

Dr. Mudussar Nawaz
Dr. Hafiz Muhammad Shakeel
Dr. Munibullah
Dr. Awais ur Rahman Sial
Mr. Muhammad Farhan Rahim
Rana Faisal Naeem
Dr. Usman Rashid
Ms. Noor ul Hudda
Ms. Ammara Shakeel

DEPARTMENT OF VETERINARY PATHOLOGY

Chairman
Assistant Professors

Dr. Imtiaz Ahmad Khan
Dr. Muhammad Zishan Ahmad
Dr. Muhammad Akram Khan



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 next page.

3. Admission Authority

The Dean, concerned shall be responsible for admission.

Age

A candidate must not be more than 25 years of age on 1st date of semester of the year of admission provided that the Vice-Chancellor may relax age limit in very exceptional cases.

4. Distribution of Seats for DVM degree

District Quota Number of Seats	Seats
Rawalpindi	2
Attock	2
Jhelum	2
Chakwal	2
Gujrat	2
Mianwali	2
Dera Ghazi Khan	2
Muzaffargarh (Tehsil Muzaffargarh and Kot Addu only)	2
Khushab	2
Bhakhar	2
Rajanpur	2
Details of Other Allocated Seats	
Open Merit	14
Islamabad	2
FATA	1
Gilgit-Baltistan	1
AJK	1
Sindh	1
KPK	1
Wards of Army	1
Veterinarian's Children	2
Balochistan Nominees	1
University Employee's Children	2
Sports	1
Total	50

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 tenth semester) he/she shall have to enroll for courses carrying not less than 15 and not more than 18 credit hours.
- iii. No course shall be offered during any semester, which does not fall within the “Scheme of Studies” in the respective semester.

Academic Standing

Grade Point Average

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

To remain on the roll of the University a student shall be 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	2.00
8 th	2.25

9 th	2.25
10 th	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.
- 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.

Internship

During the 10th semester of DVM, there shall be training in a teaching veterinary hospital, livestock, and poultry farms (Government and Private), disease diagnostic laboratories, milk plants, feed mills, slaughterhouses/ Laboratories, farmers cooperatives etc. (Government and Private) where they will undertake skills and management developments trainings. After the completion of the term 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.

M.Phil Degree Programs:

Veterinary Microbiology, Veterinary Pathology, Veterinary Parasitology, Veterinary Medicine and Veterinary Surgery

Admission to the M.Phil Degree Program

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

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

- (iv) 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.
- (v) 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

Veterinary Microbiology, Veterinary Pathology, Veterinary Parasitology, Veterinary Medicine & Surgery, Veterinary Theriogenology

ADMISSION TO THE COURSE FOR Ph.D:-

- 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.
- iii. The Ph.D applications must be accompanied by comprehensive project proposals.

SCHEME OF STUDIES FOR DOCTOR OF VETERINARY MEDICINE

Semester-I		
Course Code	Course Title	Credit Hours
ANAT-101	Veterinary Anatomy - I	3(1-2)
ANAT-103	General Veterinary Histology	2(1-1)
PHYS-101	Veterinary Physiology-I	3(2-1)
BCH-101	Biochemistry	4(3-1)
MATH-101	Mathematics	2(2-0)
ENG-101	English- I (Functional English)	2(2-0)
	Total	16

Semester-II

Course Code	Course Title	Credit Hours
ANAT-102	Veterinary Anatomy - II	3(1-2)
ANAT-104	Systemic Veterinary Histology and Embryology	3(2-1)
PHYS-102	Veterinary Physiology-II	4(3-1)
ENG-102	English- II (Communication Skills)	2(2-0)
MICRO-102	General Veterinary Microbiology	3(2-1)
PS-102	Introduction to Poultry Production	1(1-0)
LM-102	Fundamentals of Livestock Production	2(1-1)
SSH-102	Pakistan Studies	1(1-0)
	Total	19
Semester-III		
Course Code	Course Title	Credit Hours
AN-201	Principles of Animal Nutrition	3(2-1)
PHARM-201	General and Systemic Pharmacology	4(3-1)
PATH-201	General Veterinary Pathology	3(2-1)
PARA-201	General Veterinary Parasitology and Protozoology	3(2-1)
MICRO-201	Veterinary Immunology	2(1-1)
ANTH-201	Anthropology	1 (1-0)
BCH-201	Molecular Biology	2(1-1)
ZOOL-201	Lab. and Zoo Animal Management	1 (0-1)
	Total	19

Semester-IV		
Course Code	Course Title	Credit Hours
AN-202	Livestock Feed Resources and Forage Conservation	3(2-1)
PHARM-202	Veterinary Chemotherapy and Toxicology	4(3-1)
MICRO-202	Veterinary Bacteriology and Mycology	3(2-1)
PATH-202	Systemic Veterinary Pathology	3(2-1)
PARA-202	Veterinary Helminthology	4(3-1)
AE-202	Livestock Extension Education	2(2-0)
ABG-202	Animal Breeding and Genetics - I	2(1-1)
	Total	21

Semester-V		
Course Code	Course Title	Credit Hours
AN-301	Poultry Nutrition and Feed Technology	2(1-1)
ABG-301	Animal Breeding and Genetics - II	3(2-1)
PATH-301	Veterinary Clinical Pathology	1(0-1)
EPID-301	Zoonoses and Food Safety	3(2-1)
MICRO-301	Veterinary Virology	3(2-1)
THER-301	Veterinary Reproductive Physiology	3(2-1)
MED-301	General and Systemic Veterinary Medicine	3(2-1)
SSH-301	Islamic Studies/Ethics	1(1-0)
	Total	19

Semester-VI		
Course Code	Course Title	Credit Hours
PARA-302	Veterinary Entomology and Acarology	3(2-1)
LM-302	Principles of Dairy Production	3(2-1)
THER-302	Reproductive Biotechnology	2 (2-0)
MED-302	Veterinary Preventive Medicine-I	3(3-0)
PATH-302	Meat Inspection and Necropsy Practice	3(2-1)
SURG-302	Small Animal Surgery	4(3-1)
MED-302	Medicine Clinic-I	1(0-1)
SURG-304	Surgery Clinic - I	1(0-1)
THER-304	Theriogenology Clinic - I	1 (0-1)
	Total	21

Semester-VII		
Course Code	Course Title	Credit Hours
LM-401	Beef and Mutton Production	2(1-1)
MED-401	Veterinary Preventive Medicine-II	3(3-0)
SURG-401	Anesthesiology and Intensive Care	1(0-1)
THER-401	Obstetrics and Genital Diseases	3(2-1)
PS-401	Commercial Poultry Production	2(1-1)
STAT-401	Bio-statistics	3(2-1)
MED-403	Medicine Clinic-II	1(0-1)

SURG-403	Surgery Clinic - II	1(0-1)
THER-403	Theriogenology Clinic - II	1 (0-1)
	Total	17

Semester-VIII		
Course Code	Course Title	Credit Hours
PS-402	Breeder and Hatchery Management	3(2-1)
EPID-402	Veterinary Epidemiology and Public Health	3(2-1)
SURG-402	Diagnostic Imaging	2(1-1)
MED-402	Medicine Clinic III	2(0-2)
SURG-404	Surgery Clinic III	2(0-2)
THER-402	Theriogenology Clinic III	2(0-2)
ZOOL-402	Fisheries and Aquaculture	1(0-1)
	Total	15

Semester-IX		
Course Code	Course Title	Credit Hours
LM-501	Animal Welfare and Ethics	2 (2-0)
LM-503	Dairy Technology	2 (1-1)
PATH-501	Poultry Pathology	3(2-1)
SURG-501	Large Animal Surgery and Shoeing	3(2-1)
MED-501	Medicine Clinic-IV	2(0-2)
SURG-503	Surgery Clinic - IV	2(0-2)
THER-501	Theriogenology Clinic - IV	2 (0-2)

LM-501	Animal Welfare and Ethics	2 (2-0)
AEC-501	Livestock Economics and Business Management	2(2-0)
	Total	18

Semester-X		
Course Code	Course Title	Credit Hours
	Internship	
MED-502	Technical Report Writing and Presentation	2(2-0)
	Total	2

Scheme of Studies for M.Phil Veterinary Microbiology		
Code	Course Title	Credit Hours
Micro-701	Advanced General Bacteriology	3(2-2)
Micro-702	Advanced Immunology	4(3-2)
Micro-703	Advanced Systemic Bacteriology	4(1-3)
Micro-704	Advanced Virology	4(3-2)
Micro-705	Mycology	3(1-2)
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-710	Advanced Anaerobiology	3(1-2)
Micro-711	Advanced Spirochaetology	3(2-2)
Micro-713	Immunological Techniques	3(0-3)
Micro-715	Techniques in Molecular Biology	4(2-2)
Micro-716	Advanced Veterinary Epidemiology	4(3-2)

Micro-1021	Vaccinology	3(2-2)
Micro-717	Introduction to Microbial Genetics	3(2-2)
STAT-701	Experimental Statistics	3(3-0)
BCH- 701	Biochemistry	3(2-2)
Micro-722	Avian Immunology	2(1-2)
Micro-1028	Current topics in Immunology	1(1-0)
Micro-1029	Current topics in Bacteriology	1(1-0)
Micro-1029	Current topics in Bacteriology	1(1-0)
Micro-1030	Current topics in Virology	1(1-0)
Micro-1031	Current topics in Mycology	1(1-0)
Micro-1019	Special Problem	1(0-2)
Micro-799	Thesis	10(0-20)

Scheme of Studies for M.Phil Veterinary Pathology

Code	Course Title	Credit Hours
PATH-701	Advanced General Pathology	4(3-2)
PATH-702	Advanced Clinical Pathology	3(1-4)
PATH-703	Necropsy Practice	2(0-4)
PATH-704	Advanced Diagnostic Pathology	3(0-6)
PATH-705	Oncology	3(2-2)
PATH-706	Advanced Poultry Pathology-I	4(3-2)
PATH-707	Pathology of Intoxications	3(2-2)
PATH-708	Pathology of Dogs and Cats	3(2-2)
PATH-709	Equine Pathology	3(2-2)
PATH-710	Comparative Pathology	2(2-0)
PATH-711	Pathology of Ruminants Diseases	4(3-2)
PATH-712	Pathology of Camel Diseases	3(2-2)
PATH-713	Advanced Poultry Pathology-II	3(2-2)
PATH-714	Fish Pathology	3(2-2)

PATH-715	Wildlife Pathology	3(2-2)
PATH-719	Special Problem	1(1-0)
STAT-701	Experimental Statistics	3(3-0)
BCH-701	Biochemistry	3(2-2)
PATH-720	Seminar-I	1(1-0)
PATH-720	Seminar-II	1(1-0)
PATH-799	Thesis	10(0-20)

Scheme of Studies for M.Phil Veterinary Parasitology

Code	Course Title	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)
STAT-701	Experimental Statistics	3(3-0)
BCH-701	Biochemistry	3(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	10(0-20)

Scheme of Studies for M.Phil Veterinary Surgery

Code	Course Title	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	3(2-2)
STAT-701	Experimental Statistics	3(3-0)
BCH-701	Biochemistry	3(2-2)
SURG-719	Special Problems	1(1-0)
SURG-720	Seminar-I	1(1-0)
SURG-720	Seminar-II	1(1-0)
SURG-799	Thesis	10(0-20)

Scheme of Studies for M.Phil Veterinary Theriogenology

Code	Course Title	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)
STAT-701	Experimental Statistics	3(3-0)
BCH-701	Biochemistry	3(2-2)
THER-719	Special Problems	1(1-0)
THER-720	Seminar-I	1(1-0)
THER-720	Seminar-II	1(1-0)
THER-799	Thesis	10(0-20)

FACULTY OF AGRICULTURAL ENGINEERING AND TECHNOLOGY

Incharge of the Faculty Prof. Engr. Dr. Qamar-uz-Zaman



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 to the world population. These problems include labor intensive methods of agricultural activities, less sophisticated agricultural machinery, conventional sowing and harvesting techniques as well as lack of efficient irrigation systems and drainage practices. All these problems result in lower yields thus raising serious questions on food security.

The agricultural productivity depends upon biological, hydrological, chemical and mechanical inputs. Agricultural mechanization, being one of the important links of the crop production cycle, is the process that involves use of agricultural machinery ultimately increasing crop yield. Similarly, efficient irrigation and water management techniques are necessary to utilize the diminishing water resources of the country. Knowledge of modern tools/gadgets is necessary to transform agricultural systems from conventional to precision /digital based agriculture.



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.

Departments of the Faculty

DEPARTMENT OF STRUCTURES AND ENVIRONMENTAL ENGINEERING

Incharge	Engr. Dr. Muhammad Azam
Assistant Professor	Engr. Asim Gulzar
Lecturers	Engr. Dr. Muhammad Akhlaq Watto
	Engr. Tariq Maqsood

DEPARTMENT OF FARM MACHINERY AND PRECISION ENGINEERING

Chairman	Engr. Dr. Tahir Iqbal
Assistant Professors	Engr. Dr. Zia-Ul-Haq Ch.
	Engr. Dr. Shoaib Rashid Saleem
Lecturer	Engr. Ubaid ur Rehman

DEPARTMENT OF LAND AND WATER CONSERVATION ENGINEERING

Professor	Engr. Dr. Muhammad Jehanzeb
	Masud Cheema
Incharge	Engr. Dr. Muhammad Naveed Anjum
Assistant Professor	Engr. Dr. Fiaz Hussain
Lecturers	Engr. Dr. Muhammad Usman
	Engr. Ms. Saira Anwer



DEPARTMENT OF ENERGY SYSTEMS ENGINEERING

Chairman
Assistant Professor
Lecturers

Engr. Dr. Muhammad Umair
Engr. Dr. Arslan Afzal
Engr. Dr. Rana Shahzad Noor
Engr. Mr. Muhammad Ameen Ul
Zaman



LABORATORIES/FACILITIES

Faculty of Agricultural Engineering has newly established labs. with latest and state-of-the-art equipment. following labs/workshops are available in the faculty:

Hydrodynamics Lab
Fluid Mechanics Lab
Thermodynamic Lab
Solar Energy Lab
Survey & Leveling Lab
CAD/CAM Lab
Material Testing Lab
Center for Modern Agriculture and Efficient Water Technologies

Irrigation & Drainage Lab
I.C & Tractor Lab
Renewable Energy Lab
Biogas Research Station
Mechatronics & Robotics Lab
Geo-Informatics Lab
Center for Precision Agriculture

Soil Mechanics Lab
Food Engineering & Processing Lab
Bio Energy Lab
Mechanics Lab
Water Quality and Environment Lab
Farm Machinery and Implements Lab
Machine Workshop

In addition to these labs, there is an independent faculty library having wide range of curriculum books with sufficient seating capacity and comfortable environment. Furthermore, the library also has computer facilities and internet accessibility. High speed internet facility is available in the building of Faculty of Agricultural Engineering & Technology covering all offices, lecture rooms, labs. etc.

The B.Sc Agricultural Engineering program offered by the Faculty of Agricultural Engineering & Technology is accredited by Pakistan Engineering Council (PEC) at level II of Outcome Base Education (OBE) system following PEC Washington Accord guidelines. The B.Sc Agricultural Engineering program has four Program Educational Objectives (PEO) and twelve Program Learning Outcomes (PLOs).

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs) 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 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 - Life Long Learning



B.SC. AGRICULTURAL ENGINEERING

Admission Requirements

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

- F.Sc. Pre Engineering/Pre-Medical/ICS with at least 60% marks. Or Diploma in Auto and Diesel/ Auto and Farm Machinery/ Automation /Civil /Machinery / Mechanical from a recognize board with at least 60% marks.
- Should qualify Entry test conducted by PMAS-Arid Agriculture University, Rawalpindi or PEC recognized testing body.
- The merit for admission will be prepared on the basis of Matriculation, F. Sc. (1st year)/DAE and entry test marks @17:50:33, respectively.
- Must pass university entrance test.



SEAT DISTRIBUTION FOR B.SC. AGRICULTURAL ENGINEERING

Discipline	Seats
Open Merit	32
	Open Merit All over Pakistan
Other Provinces	-
Gilgit Baltistan/AJK	01
University Employee Son/ Daughter	01
FATA/ Balochistan	02
Armed Forces	02
International Students	02
Total	40

Academic Standing

Grade Point Average

- | | |
|--|------|
| c. Maximum Grade Point Average (GPA) | 4.00 |
| d. Minimum Grade Point Average for obtaining the degree (CGPA) | 2.50 |

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	2.25
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.
- iii. If a student fails to achieve CGPA 2.50 in the 10th semester, he/she shall have to repeat the course(s) with lowest grade(s) to make CGPA of 2.50 within the maximum time allowed for the degree otherwise he/she shall cease on the University rolls.

B.Sc. (Hons.) Applied Climate Change and Adaptation

Admission Requirements

- i. F.Sc. Pre-Engineering/Pre-Medical/ICS/A-Levels (or equivalent)/DAE with a minimum overall average of 45% marks.
- ii. Must pass university entrance test.

Academic Standing

Grade Point Average

- | | |
|--|-------------|
| e. Maximum Grade Point Average (GPA) | 4.00 |
| f. Minimum Grade Point Average for obtaining the degree (CGPA) | 2.50 |

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	2.25
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.
- iii. If a student fails to achieve CGPA 2.50 in the 10th semester, he/she shall have to repeat the course(s) with lowest grade(s) to make CGPA of 2.50 within the maximum time allowed for the degree otherwise he/she shall cease on the University rolls.

BS (Electronics)

The world is no longer just mechanical; it is digital and interconnected, driven by the rapid evolution of semiconductors, smart systems, and intelligent hardware. The BS Electronics at PMAS-Arid Agriculture University Rawalpindi is your chance to become a frontline innovator, equipped with cutting-edge circuit design, embedded systems knowledge, and hands-on technical skills to power the next technological revolution. Whether it's developing smart agricultural sensors, building autonomous robotics, or designing the communication networks of tomorrow, this degree prepares you to lead where the global industry needs you most. Governments, tech giants, and startups are urgently seeking experts who can bridge the gap between complex theory and functional hardware.

Program Learning Outcomes:

By the completion of the Bachelor of Science in Electronics, graduates will be able to:

- a) **Fundamental Principles:** Understand and explain the foundational principles of electronic sciences, including semiconductor physics, circuit theory, and electromagnetics aligned with modern engineering standards.
- b) **Interdisciplinary Application:** Apply interdisciplinary knowledge from mathematics, physics, and computer science to analyze complex hardware challenges and design efficient electronic systems for diverse contexts (e.g., automation, renewable energy, and industrial control).
- c) **Technical Proficiency:** Demonstrate advanced technical proficiency in tools such as PCB design software, MATLAB, FPGA programming, and AI-integrated hardware to predict, simulate, and build robust electronic devices.

d) Socio-Economic Impact: Evaluate the socio-economic and ethical dimensions of technology, including the impact of automation on the workforce, electronic waste management, and the role of sustainable electronics in fostering a greener future.

e) Innovative Solutions: Develop, implement, and communicate smart, innovative hardware solutions that integrate user requirements, industry standards, and cutting-edge research to enhance technological resilience across various sectors.

Admission Requirements

- i. F.Sc. Pre-Engineering/Pre-Medical/ICS/A-Levels (or equivalent)/DAE (Electronics, Electrical, IT/Telecom, Mechatronics, Mechanical, or Instrumentation & Process Control, Computer Information Technology (CIT), Biomedical Technology or Automation/Robotics) with a minimum overall average of 45% marks. +
- ii. Must pass university entrance test.

Academic Standing

Grade Point Average

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

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	2.25
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.
- iii. If a student fails to achieve CGPA 2.50 in the 10th semester, he/she shall have to repeat the course(s) with lowest grade(s) to make CGPA of 2.50 within the maximum time allowed for the degree otherwise he/she shall cease on the University rolls.

M.Sc (Hons.) Agricultural Engineering**Admission Requirements**

- i. B.Sc. Agricultural/Mechanical/Civil/Electrical/Food/Energy/water resource/Mechatronics Engineering in relevant subject with CGPA of at least 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.Sc (Hons.) Degree	2.50

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

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

- (i) 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.

M.Sc (Hons.) Energy Systems Engineering

Admission Requirements

- Sixteen years of education with the last degree in B.Sc. Energy/Agricultural/ Electrical/Electronic/ Chemical/Mechanical/Mechatronics Engineering, Physics and other related discipline from HEC recognized universities with minimum CGPA 2.5 out of 4.0 (in the Semester System) in the last degree.
- Should qualify entry test conducted by the PMAS-Arid Agriculture University.
- An additional entry test fee will be charged from the candidates.

ACADEMIC STANDING:

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

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

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

M.Sc (Hons.) Water Resources Engineering & Management

Admission Requirements

- Sixteen years of education with the last degree in B.Sc./BS in Agricultural/Civil/Environmental/Water Resources/Geo-informatics Engineering, Climate Change and/or relevant science disciplines (Environment/Earth/Geoinformatics/Hydrology/RS and GIS/Agriculture with specialization in Water Management) with minimum CGPA 2.5 out of 4.0 (Semester System) in the last degree.
- Should qualify entry test conducted by the PMAS-Arid Agriculture University.
- An additional entry test fee will be charged from the candidates.

ACADEMIC STANDING:

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

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

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

M.Sc. (Hons.) Precision Agriculture

Admission Requirements

- Students with BS/B.Sc./BE degrees in Agricultural Sciences, Agricultural/ Mechanical/ Mechatronics/Electronics/ Electrical/Environmental Engineering, RS and GIS, Information Technology/Computer/Environmental Science, and other related discipline from HEC recognized universities, are eligible to apply for the admission to the M.Sc. (Hons.) Precision Agriculture with minimum CGPA 2.5 out of 4.0 (in the Semester System) in the last degree.
- Should qualify entry test conducted by the PMAS-Arid Agriculture University.
- An additional entry test fee will be charged from the candidates.

ACADEMIC STANDING:

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

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

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

M.Sc. (Hons.) Environmental Engineering and Management

Admission Requirements

- Sixteen years of education with the last degree in BS/B.Sc./BE Agricultural/Civil/Electrical/Environmental and all relevant disciplines of Engineering and Earth/Water/Climate/RS and GIS, and all relevant disciplines of sciences with minimum CGPA 2.5 out of 4.0 (in the Semester System) in the last degree.
- Should qualify entry test conducted by the PMAS-Arid Agriculture University.
- An additional entry test fee will be charged from the candidates.

ACADEMIC STANDING:

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

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

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

Ph.D Agricultural Engineering

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

- Eighteen years of education with the last degree in M.Sc. (Hons) Agricultural/Mechanical/Mechatronics/Civil/Electrical/Food/Energy Systems/Water Resources/Energy/Mechatronics/ Environmental Engineering, Precision Agriculture, with minimum CGPA 3.00 out of 4.0 (in the Semester System) in the last degree.
- Entry Test marks not less than 70 %.
- PEC registration number is mandatory for applicants.
- An additional entry test fee 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 |

- To remain on roll of the University a student shall be required to maintain the minimum GPA/CGPA of 3.00.
- 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

Semester-I		
Course Code	Course Title	Credit Hours
FMPE-301	Metallurgy and Workshop Practices	2(1-1)
SEE-301	Engineering Drawing	3(2-1)
AGRO-301	Basic Agriculture	2(1-1)
PHY-301	Applied Physics	3(2-1)
QR-301	Quantitative Reasoning -I	3(3-0)
ENG-301	Functional English	3(3-0)
IS-301	Islamic Studies and Ethics	2(2-0)
CHEM-315	Fundamental of Chemistry*	Deficiency
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
LWCE-302	Fluid Mechanics	3(2-1)
SEE-302	Engineering Materials	2(1-1)

AET-302	Computer Aided Design and Graphics	3(1-2)
QR-302	Quantitative Reasoning -II	3(3-0)
CSC-304	Applications of ICT	3(2-1)
SS-304	Soil Science	2(1-1)
CHEM-316	Applied Chemistry	2(1-1)
	Total	18

Semester-III

Course Code	Course Title	Credit Hours
LWCE-401	Soil Mechanics	3(2-1)
SEE-401	Engineering Mechanics	3(2-1)
SEE-403	Surveying and Levelling	3(2-1)
ESE-401	Applied Thermodynamics	3(2-1)
FMPE-401	Manufacturing Engineering	2(1-1)
SSH-405	Ideology and Constitution of Pakistan	2(2-0)
	Total	16

Semester-IV

Course Code	Course Title	Credit Hours
LWCE-402	Engineering Hydrology	3(2-1)
SEE-402	Strength of Materials	2(1-1)

FMPE-402	IC Engine and Tractors	3(2-1)
FMPE-404	Instrumentation and Control	3(2-1)
FMPE-406	Farm Machinery and Automation	3(2-1)
MATH-410	Differential Equations	3(3-0)
	Total	17

Semester-V		
Course Code	Course Title	Credit Hours
LWCE-501	Open Channel Hydraulics	3(2-1)
SEE-501	Environmental Engineering	3(2-1)
FMPE-501	Earth Moving Machinery	2(1-1)
AET-501	Engineering Statistics	2(2-0)
ENG-501	Expository Writing	3(3-0)
MATH-511	Numerical Analysis	3(3-0)
SOC-515	Social Science	2(2-0)
	Total	18

Semester-VI		
Course Code	Course Title	Credit Hours
LWCE-502	Pumps and Tubewells	2(1-1)
LWCE-504	Irrigation Engineering	3(2-1)
FMPE-502	Machine Design	3(2-1)

ESE-502	Energy Conservation & Auditing	2(1-1)
MGT-502	Entrepreneurship	2(2-0)
SSH-502	Civics and Community Engagement	2(2-0)
MDE Elective-I (<i>one course to be selected by students</i>)		3(2-1)
SEE-502	Wastewater Engineering	
FMPE-504	Introduction to Precision Agriculture	
LWCE-506	Groundwater Hydrology	
	Total	17

Semester-VII		
Course Code	Course Title	Credit Hours
LWCE-601	GIS & Remote Sensing	2(1-1)
SEE-601	Solid Waste Engineering	2(1-1)
FMPE-601	Agricultural Process Engineering	2(1-1)
CSC-601	Artificial Intelligence (AI)	3(2-1)
MGT-601	Project Management	2(2-0)
AET-601	Final Year Design Project (FYDP)-I	3(0-3)
Engg. Elective-I (<i>one course to be selected by students</i>)		2(1-1)
ESE-601	Boiler Engineering and Power Plants	
ESE-603	Alternate and Renewable Energy	
LWCE-603	Soil and Water Conservation Engineering	
FMPE-603	Post-Harvest Technologies	
	Total	16

Semester-VIII		
Course Code	Course Title	Credit Hours
LWCE-602	Drainage Engineering	3(2-1)
SEE-602	Farm Structures and Control Sheds	3(2-1)
AET-602	Final Year Design Project (FYDP) -II	3(0-3)
AET-604	Occupational Health and Safety	1(1-0)
MDE Elective-II (<i>one course is to be selected</i>)		2(1-1)
LWCE-604	Farm Irrigation Systems	
FMPE-606	Landscape Engineering	
Engg. Elective-II (<i>One Course is to be selected</i>)		2(1-1)
FMPE-602	Robotics in Agriculture	
LWCE-604	Farm Irrigation Systems	
SEE-606	Environmental Modelling and Simulation	
Engg. Elective-III (<i>One Course is to be selected</i>)		2(1-1)
ESE-602	Energy in Agriculture	
FMPE-604	Design of Agricultural Machinery	
LWCE-606	Farm Water Management	
	Total	16

Scheme of Studies for B.Sc. (Hons.) Applied Climate Change and Adaptation

Semester-I		
Course Code	Course Title	Credit Hours
ACC-301	Introduction to Climate Change	3(3-0)
ACC-303	Weather and Meteorology	3(2-1)
ACC-305	Earth's Physical Environment	2(2-0)
ACC-307	Climate Physics	2(1-1)
ENG-301	Functional English	3(3-0)
QR-301	Quantitative Reasoning-I	3(3-0)
IS-301	Islamic Studies and Ethics	2(2-0)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
ACC-302	Global Climate Systems and Science	3(2-1)
ACC-304	Geographic Information Systems (GIS) for Climate Change	3(2-1)
ESE-302	Renewable Energy and Clean Technologies	3(2-1)
ENV-302	Environmental Chemistry	3(2-1)
CS-302	Applications of ICT	3(2-1)
QR-302	Quantitative Reasoning -II	3(3-0)
	Total	18

Semester-III		
Course Code	Course Title	Credit Hours
ACC-401	Climate Change Statistics in R	3(2-1)
ACC-403	Sustainable Development in a Changing Climate	3(2-1)
CS-401	Computer Programming for Climate Change	3(2-1)
ACC-405	Greenhouse Gas Emissions & Carbon Cycle	2(1-1)
ACC-407	Global Climate Change Policy and Politics	3(3-0)
ACC-409	Remote Sensing for Climate Change	2(1-1)
SSH-401	Ideology and Constitution of Pakistan	2(2-0)
	Total	18

Semester-IV		
Course Code	Course Title	Credit Hours
FMPE-402	Precision Agriculture for Climate Resilience	3(2-1)
ACC-402	Geo-Statistics for Climate Change Analysis	3(2-1)
ACC-404	Climate Change Impacts on Water Resources and Ecosystems	3(2-1)
ACC-406	Climate Change and Disaster	3(3-0)
ACC-408	Carbon Accounting: Tools & Techniques	3(2-1)
CS-402	Artificial Intelligence	3(2-1)
	Total	18

Semester-V		
Course Code	Course Title	Credit Hours
ACC-501	Climate Change Risk Assessment	3(2-1)
ACC-503	Climate Change and Food Security	2(2-0)
ACC-505	Climate Change Monitoring	3(2-1)
ACC-507	Carbon Pricing Mechanisms	2(1-1)
ACC-509	Climate Futures and Modelling	3(2-1)
ENG-501	Expository Writing	3(3-0)
	Total	16

Semester-VI		
Course Code	Course Title	Credit Hours
ACC-502	Climate Justice	2(2-0)
ACC-504	Climate Extremes	3(2-1)
ACC-506	Climate Coastal Science	3(2-1)
ACC-508	Cryosphere and Climate	2(2-0)
MGT-502	Entrepreneurship	2(2-0)
SSH-502	Civics and Community Engagement	2(2-0)
Elective-I (<i>one course to be selected by students</i>)		3(2-1)
ACC-510	Ecosystem Services and Biodiversity	
ACC-512	International Climate Diplomacy	
ESE-502	Energy Conservation & Auditing	
ACC-514	Climate Change and Decision Support Systems	

ACC-516	Gender, Climate Change and Disaster	
	Total	17

Semester-VII		
Course Code	Course Title	Credit Hours
ACC-601	Hydro-climatology	3(2-1)
ACC-603	Agro-Climate Modeling	3(2-1)
ACC-605	Climate Change Adaptation and Mitigation	3(3-0)
MGT-601	Project Management	2(2-0)
FMPE-612	Climate Adaptation Tools and Technologies	3(2-1)
ACC-601	Hydro-climatology	3(2-1)
Elective-I (one course to be selected by students)		2(1-1)
ACC-607	Advance Surveying Techniques	
ACC-609	Natural Resources Management	
ACC-611	Ocean-Atmosphere Interactions	
ACC-613	Climate Finance Mechanisms	
ACC-615	Carbon Sequestration Techniques	
ESE-603	Alternate Energy Resources	
	Total	16

Semester-VIII		
Course Code	Course Title	Credit Hours
ACC-602	AI for Climate Change	3(2-1)
ACC-604	Predicting Climate Extremes with Machine Learning	3(2-1)
ACC-620	Capstone Project	3(0-3)
Elective-II (one course is to be selected)		3(2-1)
ACC-606	Landscape Design under Changing Climate	
ACC-608	Disease and Pest Monitoring	
ACC-610	Environmental Modelling and Simulation	
ACC-612	Mitigation Strategies Design	
Elective-III (One Course is to be selected)		2(2-0)
LWCE-608	Water Resources Assessment and Management	
ACC-614	Urban Planning and Climate Change	
ACC616	Environmental Law, Policy, and Economics	
ACC-618	Integrated Water Resources Management	
Elective-IV (One Course is to be selected)		2(1-1)
ESE-604	Energy in Agriculture	
FR-306	Forestry and Climate Change	
ACC-618	Sustainable Supply Chains	
Total		16

Scheme of Studies for BS(Electronics)

Semester-I		
Course Code	Course Title	Credit Hours
ELEC-301	Circuit Theory - I	3(2-1)
CS-301	Introduction to Computing	3(2-1)
MATH-311	Calculus and Analytical Geometry	3(3-0)
PHY-301	Applied Physics	3(2-1)
ENG-301	Functional English	3(3-0)
QR-301	Quantitative Reasoning-I	3(3-0)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
ELEC-302	Circuit Theory - II	3(2-1)
ELEC-304	Solid State Electronics	3(3-0)
MATH-312	Differential Equations	3(3-0)
CHEM-302	Applied Chemistry	3(2-1)
CS-302	Applications of ICT	3(2-1)
QR-302	Quantitative Reasoning -II	3(3-0)
	Total	18

Semester-III		
Course Code	Course Title	Credit Hours
ELEC-401	Electronics-I	3(2-1)
CSC-232	Object Oriented Programming	3(2-1)
MATH-411	Complex Variables and Transforms	3(3-0)
SSH-403	Civics and Community Engagement	2(2-0)
IS-401	Islamic Studies and Ethics	2(2-0)
SSH-401	Ideology and Constitution of Pakistan	2(2-0)
	Total	15

Semester-IV		
Course Code	Course Title	Credit Hours
ELEC-402	Electronic-II	3(2-1)
ELEC-404	Signals and Systems	3(2-1)
ELEC-406	Digital Logic Design	3(2-1)
MATH-412	Linear Algebra	3(3-0)
MGT-412	Entrepreneurship	2(2-0)
SSH-412	Pakistan Studies	2(2-0)
	Total	16

Semester-V		
Course Code	Course Title	Credit Hours
ELEC-501	Electronic Circuit Design	3(2-1)
ELEC-503	Microprocessor System Design	3(2-1)
ELEC-505	Instrumentation and Measurements	3(2-1)
ELEC-507	Linear Control Systems	3(2-1)
STAT-501	Statistics	2(2-0)
ENG-501	Expository Writing	3(3-0)
	Total	17

Semester-VI		
Course Code	Course Title	Credit Hours
ELEC-502	Electromagnetic Field Theory	3(3-0)
ELEC-504	Communication Systems	4(3-1)
ELEC-506	Integrated Circuits	3(2-1)
ELEC-508	Embedded System Design	4(3-1)
ELEC-510	Power Electronics	3(2-1)
ELEC-502	Electromagnetic Field Theory	3(3-0)
	Total	17

Semester-VII		
Course Code	Course Title	Credit Hours
ELEC-601	Data Communication and Networks	3(2-1)
ELEC-603	Digital Signal Processing	3(2-1)
MGT-612	Project Management	3(3-0)
ELEC-605	Elective - I	3(2-1)
ELEC-607	Elective - II	3(2-1)
ELEC-609	FYP-I	3(0-3)
ELEC-601	Data Communication and Networks	3(2-1)
	Total	18

Semester-VIII		
Course Code	Course Title	Credit Hours
ELEC-602	Microwave Electronics	3(2-1)
ELEC-606	Elective - III	3(2-1)
ELEC-608	Elective - IV	3(2-1)
ACC-620	FYP-II	3(0-3)
	Total	12

Electives (one course is to be selected)

Course Title	Credit Hours
VLSI Design	3(2-1)
Introduction to Robotics	3(2-1)
Industrial Automation	3(2-1)
Biomedical Instrumentation	3(2-1)
Pattern Recognition	3(2-1)
Digital Image Processing	3(2-1)
Renewable Energy	3(2-1)
Artificial Intelligence	3(2-1)
Satellite Communication	3(2-1)
Introduction to IoT	3(2-1)

SCHEME OF STUDIES FOR M.SC. (HONS.) AGRICULTURAL ENGINEERING		
DEPARTMENT OF FARM MACHINERY AND PRECISION ENGINEERING		
Code	Course Title	Credit Hours
FMPE -701	Advanced Power and Machinery	3(2-1)
FMPE -702	Agricultural Storage Engineering	3(2-1)
FMPE -704	Experimental Stress Analysis	3(2-1)
FMPE -705	Farm Machinery and Environment	3(2-1)
FMPE -706	Grain Preservation and Processing	3(2-1)
FMPE -707	Hydraulic Control Systems	3(2-1)
FMPE -708	Harvesting Machinery	3(2-1)
FMPE -709	Instrumentation and Machine Automation	3(2-1)
FMPE -710	Operations Research	3(2-1)

FMPE -711	Product Design and Development	3(2-1)
FMPE -713	Similitude in Engineering	3(2-1)
FMPE-714	Tillage and Traction Dynamics	3(2-1)
FMPE-715	Theory of Manufacturing Processes	3(2-1)
FMPE-716	Precision Agriculture	3(2-1)
FMPE-717	Emerging Farm Technologies	3(2-1)
AET-799	Research Thesis (M.Sc. Hons.)	10(0-20)
AET -719	Special Problems	1(1-0)
AET -720	Seminar	1(1-0)
DEPARTMENT OF LAND AND WATER CONSERVATION ENGINEERING		
LWCE-701	Computational Methods in Water Recourses Engineering	3(3-0)
LWCE-702	Advance open Channel Hydraulics	3(2-1)
LWCE-703	Advanced Hydrology	3(2-1)
LWCE-704	Advanced Groundwater Hydrology	3(2-1)
LWCE-705	Advanced Drainage Engineering	3(2-1)
LWCE-706	Resource Conservation Engineering	3(3-0)
LWCE-707	Statistical Hydrology	3(2-1)
LWCE-708	System Analysis of Integrated Water Resources Engineering	3(2-1)
LWCE-709	Spate Irrigation Practices and Management	3(2-1)
LWCE-710	Design of Hydraulics structures	3(3-0)
LWCE-711	Water Quality Management	3(2-1)
LWCE-712	River Engineering	3(3-0)
LWCE-713	Water Resources Management	3(3-0)
LWCE-714	Climate Change and Water Resources	3(2-1)
LWCE-715	Watershed Management	3(2-1)
LWCE-716	Flood Estimation and Control	3(2-1)
LWCE-717	Geo-Informatics in Water Resources Management	3(2-1)
LWCE-718	Hydro-Informatics	3(2-1)
AET-719	Special Problem	1(1-0)
AET-720	Seminar	1(1-0)
AET-799	Research Thesis (M.Sc. Hons.)	6(0-12)

DEPARTMENT OF STRUCTURES AND ENVIRONMENTAL ENGINEERING

SEE-701	Environmental Impact Assessment	3(2-1)
SEE -702	Design of Water Supply and Sewage systems	3(2-1)
SEE -703	Environmental Control in Farm Structures	3(2-1)
SEE -704	Environmental Health Engineering	3(2-1)
SEE -705	Solid and hazardous waste management	3(3-0)
SEE -706	Geo Environment	3(2-1)
SEE -708	Advanced Land Surveying	3(2-1)
SEE -709	Modeling of Environmental Systems	3(3-0)
SEE -710	Air and Noise Pollution Control	3(3-0)
SEE -711	Theory and Design of Structures	3(2-1)
SEE -712	Wastewater Engineering	3(2-1)
SEE-713	Agricultural Pollution and its Control	3(3-0)
SEE-714	Advances in Water Quality Monitoring and Management	3(2-1)
AET-799	Research Thesis (M.Sc. Hons.)	6(0-12)
AET-719	Special Problem	1(1-0)
AET-720	Seminar	1(1-0)

DEPARTMENT OF ENERGY SYSTEMS ENGINEERING

ESE-701	Applied Solar Energy	3(2-1)
ESE-702	Energy System Modeling and Simulation	3(2-1)
ESE-703	Energy Audit and Management	3(2-1)
ESE-704	Computer Modeling and Engineering Systems	3(2-1)
ESE-705	Bio Energy Engineering	3(2-1)
ESE-706	Hydro Power Plants	3(2-1)
ESE-707	Wind Energy Engineering	3(2-1)
ESE-708	Instrumentation in Energy Systems	3(2-1)
ESE-709	Refrigeration and Air Conditioning	3(2-1)
ESE-710	Fuels and Combustion	3(2-1)
ESE-711	Advance Clean Coal Technologies	3(3-0)
ESE-712	Renewable Energy Engineering	3(2-1)
ESE-713	Hydrogen Technologies and Fuel Cells	3(2-1)

ESE-714	Energy Management and Buildings	3(2-1)
ESE-715	Energy Economics and Management	3(3-0)
ESE-716	Biofuels Engineering	3(2-1)
ESE-717	Nuclear Power Plant Engineering	3(3-0)
ESE-718	Research Methodology Tools and Techniques	3(2-1)
AET-719	Special Problem	1(1-0)
AET -720	Seminar	1(1-0)
AET-799	Research Thesis (M.Sc. Hons.)	6(0-12)

**SCHEME OF STUDIES FOR M.SC. (HONS.)
WATER RESOURCES ENGINEERING & MANAGEMENT**

Code	Course Title	Credit Hours
WREM-701	Applied Hydrology	3(2-1)
WREM-702	Dam and Reservoir Engineering	3(2-1)
WREM-703	Advanced Open Channel & Computational Hydraulics	3(2-1)
WREM-704	Watershed Planning and Management	3(2-1)
WREM-705	Sediment Transport and River Engineering	3(2-1)
WREM-706	Climate Change and Water Resources	3(2-1)
WREM -707	Water Quality Modelling and Management	3(2-1)
WREM-708	Irrigation Engineering and Management	3(3-0)
WREM-709	Advanced Drainage Engineering	3(2-1)
WREM-710	Snow and Ice Hydrology	3(2-1)
WREM-711	Groundwater Hydrology and Exploration	3(2-1)
WREM-712	Design of Hydraulic Structures	3(2-1)
WREM-713	Statistical Hydrology	3(2-1)
WREM-714	Remote Sensing and GIS Applications in Water Resources	3(2-1)
WREM-715	Physical and Numerical Modeling	3(2-1)

WREM-716	Flood Estimation and Control	3(2-1)
WREM-717	Reservoir Design and Operation	3(3-0)
WREM-718	Environmental Impact Assessment	3(2-1)
WREM-719	River Flood Modeling	3(2-1)
WREM-720	Water Resources Planning and Economics	3(2-1)
WREM-721	Project Construction and Management	3(2-1)
WREM-722	Computer Applications in Water Resources	3(2-1)
WREM-723	Rainwater Harvesting and Management	3(2-1)
WREM-724	Seminar	1(1-0)
WREM-725	Special Problem	1(1-0)
WREM-799	Thesis for M.Sc. (Hons.) Water Resources Engineering & Management	6(6-0)

**SCHEME OF STUDIES FOR M.SC. (HONS.)
PRECISION AGRICULTURE**

Course Code	Course Title	Credit Hours
C4PA-702	Digital Agriculture	3(2-1)
C4PA-703	Big Data Applications in Agriculture	3(2-1)
C4PA-704	Decision Support Systems	3(2-1)
C4PA-705	Internet of Things for Precision Agriculture	3(2-1)
C4PA-707	Remote Crop Monitoring	3(2-1)
C4PA-708	Sensors and Sensing Systems	3(2-1)
C4PA-709	Numerical Methods for Agriculture	3(2-1)
C4PA-710	Research Methods	3(2-1)
C4PA-711	UAV Spraying Technologies	3(2-1)
C4PA-713	Crop Technology	3(2-1)
C4PA-714	Economics and Environmental Impacts	3(2-1)
C4PA-717	Precision Horticulture	3(2-1)
C4PA-716	Precision Agronomy	3(2-1)

C4PA-715	Smart Disease and Pest Monitoring Systems	3(2-1)
C4PA-718	Soil and Crop Zone Management	3(2-1)
C4PA-719	Precision Soil Fertility Management	3(2-1)
C4PA-720	Climate Change and Sustainability	3(2-1)
C4PA-721	Scope and Adoption of Precision Agriculture	3(2-1)
C4PA-722	Computers and Electronics in Agriculture	3(2-1)
C4PA-723	Numerical Methods for Agriculture	3(2-1)
C4PA-712	UAV Spraying Technologies	3(2-1)
C4PA-724	Applications development	3(2-1)
C4PA-725	Crop Technology	3(2-1)
C4PA-726	Variable Rate Technologies	3(2-1)
C4PA-727	Precision Irrigation Technologies	3(2-1)
C4PA-799	Research Thesis (M.Sc. Hons.)	6(6-0)

Scheme of Studies for M.Sc. (Hons.) Water Resources Engineering		
Course Code	Course Title	Credit Hours
LWCE-701	Advanced Open Channel Hydraulics	3(2-1)
LWCE-702	Design of Hydraulic Structures	3(2-1)
LWCE-703	Dam and Reservoir Engineering	3(2-1)
LWCE-704	Sediment Transport and River Engineering	3(2-1)
LWCE-705	Physical and Numerical Modeling	3(2-1)
LWCE-706	Advanced Hydrology	3(2-1)
Optional Subjects (Any two of the following)		
LWCE-707	Climate Change and Water Resources	3(2-1)
LWCE-708	Remote Sensing and GIS Applications in Water Resources	3(2-1)
LWCE-709	Groundwater Hydrology and Exploration	3(2-1)

LWCE-710	Water Resources Management	3(3-0)
LWCE-711	Water Resources Planning and Economics	3(2-1)
LWCE-712	Water Quality Modelling and Management	3(2-1)
LWCE-713	Flood Estimation and Control	3(2-1)
LWCE-714	Reservoir Design and Operation	3(2-1)
LWCE-715	Environmental Impact Assessment	3(2-1)
LWCE-716	Advanced Drainage Engineering	3(2-1)
LWCE-717	Statistical Hydrology	3(2-1)
LWCE-718	Water Resources System Analysis	3(2-1)
LWCE-719	River Engineering	3(3-0)
LWCE-720	Watershed Management	3(2-1)
LWCE-721	Catchment Modeling	3(2-1)
Seminar & Thesis		
LWCE-723	Special Problems	1(1-0)
LWCE-724	Seminar	1(1-0)
LWCE-799	Thesis for M.Sc. (Hons.) Water Resources Engineering	06(0-12)

SCHEME OF STUDIES FOR M.SC. (HONS.) ENERGY SYSTEMS ENGINEERING		
Course Code	Course Title	Credit Hours
ESE-701	Energy Audit and Management	3(2-1)
ESE-702	Solar Thermal Engineering and Storage Techniques	3(2-1)
ESE-703	Bio Energy Engineering	3(2-1)
ESE-704	Hybrid Power Sources	3(2-1)
ESE-705	Hydro Power Engineering	3(2-1)
ESE-706	Wind Energy Engineering	3(2-1)
ESE-707	Materials for Energy Storage	3(2-1)
ESE-708	Refrigeration and Air Conditioning	3(2-1)

ESE-709	Power Electronics for Energy Conversion	3(2-1)
ESE-710	Electrical Power Transmission and Distribution	3(2-1)
ESE-711	Energy Systems Modelling and Simulation	3(2-1)
ESE-712	Coal Processing Technologies	3(2-1)
ESE-713	Fluid Flow and Heat Transfer in Industrial Applications	3(2-1)
ESE-714	Hydrogen Technologies and Fuel Cells	3(2-1)
ESE-715	Research Methods and Project Management	3(3-0)
ESE-716	Photovoltaic Systems	3(2-1)
ESE-717	Biofuels Engineering	3(2-1)
ESE-718	Research Methodology: Tools and Techniques	3(2-1)
ESE-719	Special Problems	1(1-0)
ESE-720	Seminar	1(1-0)
ESE-799	Thesis for M.Sc (Hons.) Energy Systems Engineering	6(0-12)

SCHEME OF STUDIES FOR M.SC. (HONS.) ENVIRONMENTAL ENGINEERING AND MANAGEMENT		
Course Code	Course Title	Credit Hours
EEM-701	Environmental Impact Assessment	3(2-1)
EEM-702	Design of Water Supply and Sewage Systems	3(2-1)
EEM-704	Environmental Health Engineering	3(2-1)
EEM-705	Solid and Hazardous Waste Management	3(2-1)
EEM-706	Geo Environment	3(2-1)
EEM-709	Modeling of Environmental Systems	3(2-1)
EEM-710	Air and Noise Pollution Control	3(3-0)
EEM-712	Wastewater Engineering	3(3-0)
EEM-714	Advances in Water Quality Monitoring and Management	3(2-1)
EEM-715	Agricultural Pollution and Its Control	3(2-1)
EEM-719	Special Problem	1(1-0)
EEM-720	Seminar	1(1-0)
EEM-721	Remote Sensing and GIS Applications in Environment	3(2-1)
EEM-722	Water Resources and Environmental Management	3(2-1)
EEM-723	Environmental Analytical Techniques	3(2-1)
EEM-724	Climate Change Adaptation and Mitigation for Sustainable Environment	3(2-1)
EEM-727	Environmental Data Science and Sustainability	3(2-1)
EEM-799	Thesis for M.Sc. (Hons.) Environmental Engineering and Management	12(12-0)

SCHEME OF STUDIES FOR PH.D AGRICULTURAL ENGINEERING**DEPARTMENT OF FARM MACHINERY AND PRECISION ENGINEERING**

Code	Course Title	Credit Hours
FMPE-805	Advanced Agricultural Machinery and Environment	3(2-1)
FMPE-806	Advances in Grain Processing and Preservation	3(2-1)
FMPE-807	Advanced Hydraulic Control Systems	3(2-1)
FMPE-808	Yield Monitoring and Harvesting Techniques	3(2-1)
FMPE-809	Machine Automation	3(2-1)
FMPE-810	Advanced Operations Research	3(2-1)
FMPE-813	Machine Simulation Modeling	3(2-1)
FMPE-816	Advanced Precision Agriculture	3(2-1)
FMPE-817	Automation of Farm Operation	3(2-1)
AET-819	Seminar-I	1(1-0)
AET-820	Seminar-II	1(1-0)
AET-899	Research Thesis	50(0-100)

DEPARTMENT OF LAND AND WATER CONSERVATION ENGINEERING

LWCE-801	Groundwater Modeling	3(2-1)
LWCE-802	Planning and Design of Irrigation Systems	3(2-1)
LWCE-803	Surface Irrigation Modeling	3(3-0)
LWCE-804	Integrated Water Resources Management	3(2-1)
LWCE-805	Hydro-informatics and Data Science	3(2-1)
LWCE-806	Catchment Modeling	3(2-1)
AET-819	Seminar-I	1(1-0)
AET-820	Seminar-II	1(1-0)
AET-899	Research Thesis	50(0-100)

DEPARTMENT OF STRUCTURES AND ENVIRONMENTAL ENGINEERING

SEE-801	Contaminant Transport modeling	3 (2-1)
SEE-802	Sustainable Agricultural Infrastructure	3 (2-1)
SEE-803	Waste Water Treatment and Design	3 (3-0)
SEE-804	Modeling of Environmental Systems	3 (3-0)

SEE-805	Climate Change adaption and mitigation	3 (3-0)
SEE-806	Environmental analytical techniques	3 (2-1)
AET-899	Research Thesis	50(0-100)
AET-819	Seminar-I	1 (1-0)
AET-820	Seminar-II	1 (1-0)
DEPARTMENT OF ENERGY SYSTEMS ENGINEERING		
ESE-801	Applied Solar Energy and Modeling	3(2-1)
ESE-802	Advanced Energy Systems Modeling and Simulation	3(2-1)
ESE-803	Advanced Computer Modeling of Engineering Systems	3(2-1)
ESE-804	Applied Wind Energy Engineering	3(2-1)
ESE-805	Applied Renewable Energy Engineering	3(2-1)
ESE-806	Advanced Research Methodology	3(2-1)
AET-819	Seminar-I	1(1-0)
AET-820	Seminar-II	1(1-0)
AET-899	Research Thesis	50(0-100)

UNIVERSITY INSTITUTE OF MANAGEMENT SCIENCES

Director of the Institute

Dr. Farida Faisal



The University Institute of Management Sciences (UIMS) is a constituent institute of the Pir Mehr Ali Shah Arid Agriculture University. Established in 1996 with the inception of MBA program, UIMS has grown into a premier business school in the region, recognized for its academic excellence, industry relevance, and contribution to human capital development. Over the years, the institute has expanded its academic portfolio and student body and today stands among the more diverse business schools in the country, with graduates serving in prominent national and international organizations. UIMS remains committed to providing quality education, fostering research, and developing ethically grounded, analytically strong, and professionally competent graduates capable of meeting the challenges of a dynamic global environment.

The institute offers undergraduate and postgraduate degree programs leading to BBA with specializations in Marketing, Finance, Human Resource Management, Supply Chain Management, Quality Management, Entrepreneurship, and Islamic Banking and Finance; BS in Accounting and Finance; BS in Business Analytics; BS in Financial Technology (FinTech); BBA (2-Year Program); MBA; MS (Management Sciences); and PhD (Management Sciences).



Faculty of the Institute

Director

Dr. Farida Faisal

Assistant Directors

Dr. Irfan Ullah Munir

Hafiz Muhammad Hafeez

Assistant Professors

Dr. Bushra Zulfiqar

Dr. Shuja Ilyas

Dr. Muhammad Asif Zaheer

Dr. Muhammad Maroof Ajmal

Dr. Zia ur Rehman

Dr. Temoor Anjum

Lecturers

Dr. Sidra Shahzadi

Mr. Osman Zulfiqar Alvi

Dr. Kaleem Ullah

Dr. Anum Shafique

Dr. Sidra Akhtar

Dr. Zoia Khan

Dr. Sidra Gazali

Dr. Shahzeb Khurshid

Mr. Ammar Asghar

Mr. Muhammad Aleem Akhtar

Ms. Aarooj Kiran

Ms. Saiqa Nazar

Mr. Waqas Aslam

Degree Programs Offered at UIMS

BBA(Honors.)/BS (Business Analytics)/BS (Accounting & Finance)/BS (Fin Tech)

- (i) The duration of the Course for completing the course for the undergraduate degrees offered at UIMS 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 15 credits hours in a semester and maximum 18 credit hours.

1. Admission and Registration:-

Minimum Academic Requirement:-

- 2. 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 BBA, BS in Accounting and Finance, BS in Business Analytics, BS in Financial Technology (FinTech).

3. Admission Authority:-

The Director of the Institute shall be responsible for admission to the programme.

AGE: A candidate must not be more than 25 years of age on 1st date of semester of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

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

C. Academic Standing:

Grade Point Average

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

D. 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.

BBA - 2 years

- Candidates having 14 years of HEC-recognized education in any discipline (Arts or Sciences) with a minimum CGPA of 2.50 out of 4.00 or 50% marks shall be eligible for admission to the BBA (2-Year).
- The program is offered exclusively in the Evening Session.
- Course duration two years (four semesters) with a total of 84 credit hours. The curriculum comprises a capstone project. Students are also required to complete an internship (non-credit) to gain practical exposure.

Master of Business Administration (MBA)

Introduction: MBA program is designed to equip experienced professionals with advanced analytical and decision-making skills essential for success in today's business world. It fosters a dynamic and diverse learning environment that encourages strategic thinking, creativity, and innovation. The program focuses on developing managerial excellence and the practical application of business concepts. It blends academic rigor with real-world relevance, empowering executives to navigate complex challenges and drive organizational success.

Duration:

The duration of the course for the Degree of Master of Business Administration shall not be less than four semesters and more than six semesters.

Admission Eligibility Criteria:

- i. The candidate must have completed 16 years of education from a recognized institution with a minimum of 50% marks or equivalent CGPA.
- ii. The candidate must have work experience.
- iii. Must passed university entrance test.

c) Academic Standing / Passing Criteria Grade Point Average:

- (a) Maximum grade point average: 4.00
- (b) Minimum grade point average for obtaining Master's Degree: 2.50

To remain on the roll of the University, a student shall be required to maintain the following minimum CGPA:

Semester	CGPA
1st	1.50
2nd	2.00
3rd	2.25
4th	2.50

A student who obtains a CGPA of 2.00 or above but less than 2.50 in the last semester (i.e., 4th semester), upon the completion of the entire approved coursework, 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 to the required minimum of 2.50 within the maximum time allowed for the award of the degree. Failing this, he/she shall cease to be on the roll.

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).

c) Academic Standing / Passing Criteria Grade Point Average:

- (a) Maximum grade point average: 4.00
- (b) Minimum grade point average for obtaining Master's Degree: 2.50

To remain on the roll of the University, a student shall be required to maintain the following minimum CGPA:

Semester	CGPA
1st	1.50

2nd	2.00
3rd	2.25
4th	2.50

A student who obtains a CGPA of 2.00 or above but less than 2.50 in the last semester (i.e., 4th semester), upon the completion of the entire approved coursework, 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 to the required minimum of 2.50 within the maximum time allowed for the award of the degree. Failing this, he/she shall cease to be on the roll.

Ph.D (MANAGEMENT SCIENCES)

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

Admission to the Course:

- i. Must have passed the MS degree with 1st division or with at least a CGPA of 3.00 out 4.00
- ii. Must have passed University Entrance Test with 70% marks.
- iii. The Ph.D applications must be accompanied by comprehensive project proposals.

SCHEME OF STUDY BACHELOR OF BUSINESS ADMINISTRATION (BBA)

Semester-I		
Course Code	Course Title	Credit Hours
ENG-301	Functional English	3(3-0)
IS-302	Islamic Studies/Ethics	2(2-0)
QR-401	Quantitative Reasoning-I	3(3-0)
MGT-411	Principles of Management	3(3-0)
MGT-321	Fundamentals of Accounting	3(3-0)
ECON-301	Introduction to Economics	3(3-0)
FQ-301	Fehm e Quran-1	1(0-1)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
ENG-302	Expository Writing	3(3-0)
SSH-302	Ideology and Constitution of Pakistan	2(2-0)
QR-402	Quantitative Reasoning-II	3(3-0)
NS-402	The Science of Global Challenges	3(3-0)
FQ-302	Fehm e Quran-II	1(0-1)
MGT-351	Principles of Marketing	3(3-0)
MGT-407	Business Ethics and CSR	3(3-0)
	Total	18

Semester-III		
Course Code	Course Title	Credit Hours
SSH-303	Pak Studies	2(2-0)
CS-100	Application of Information and Communication Technologies (ICT)	3(2-1)
SSH-301	Civics and Community Engagement	2(2-0)
STAT-511	Statistical Inference	3(3-0)
MGT-452	Marketing Management	3(3-0)
MGT-574	International Business	3(3-0)
	Total	16

Semester-IV		
Course Code	Course Title	Credit Hours
ANTH-401	Social Psychology	2(2-0)
FL-302	Foreign Language	2(2-0)
MGT-317	Entrepreneurship	2(2-0)
MGT-512	Organizational Behavior	3(3-0)
MGT-322	Financial Management	3(3-0)
MGT-663	Digital Marketing & Social Media Strategy	3(3-0)
MGT-571	Intro to SCM	3(3-0)
	Total	18

Semester-V		
Course Code	Course Title	Credit Hours
MGT-583	Islamic Finance	3(3-0)
MGT-504	Managerial Accounting	3(3-0)
MGT-515	Human Resource Management	3(3-0)
MGT-616	Total Quality Management	3(3-0)
MGT-513	Business Law & Taxation	3(3-0)
	Total	15

Semester-VI		
Course Code	Course Title	Credit Hours
MGT-580	Strategic Management	3(3-0)
MGT-696	Production Operations Management	3(3-0)
MGT-584	SDGs and Business	3(3-0)
	Elective-I	3(3-0)
	Elective-II	3(3-0)
	Total	15

Semester-VII		
Course Code	Course Title	Credit Hours
MGT-493	Business Research Methods	3(3-0)
MGT-474	AI in Business	3(3-0)
	Elective-III	3(3-0)
	Elective-IV	3(3-0)
MGT-698	Internship	3(0-6)
MGT-493	Business Research Methods	3(3-0)
	Total	18

Semester-VIII		
Course Code	Course Title	Credit Hours
MGT-697	Business & Management Relevant Certification	3(3-0)
MGT-644	E-Commerce and Digital Business	3(3-0)
	Elective-V	3(3-0)
	Elective-VI	3(3-0)
MGT-699	Capstone Project	3(3-0)
	Total	15

SPECIALIZATION COURSES

MARKETING

Course Code	Course Title	Credit Hours
MGT-560	Consumer Behavior	3(3-0)
MGT-561	Advertising & Promotion	3(3-0)
MGT-562	Sales Management	3(3-0)
MGT-663	Services Marketing	3(3-0)
MGT-664	Strategic Brand Management	3(3-0)
MGT-665	International Marketing	3(3-0)
MGT-666	Marketing Research	3(3-0)
MGT-667	Marketing Channels	3(3-0)
MGT-668	Strategic Marketing	3(3-0)
MGT-669	Seminars in Marketing	3(3-0)

SPECIALIZATION COURSES

FINANCE

Course Code	Course Title	Credit Hours
MGT-531	Analysis of Financial Statements	3(3-0)
MGT-633	Corporate Finance	3(3-0)
MGT-635	Islamic Banking	3(3-0)

MGT-638	International Finance	3(3-0)
MGT-639	Money & Capital Markets	3(3-0)
MGT-631	Securities Analysis & Portfolio Management	3(3-0)
MGT-632	Introduction to Financial Risk Management	3(3-0)
MGT-636	Introduction to Behavioral Finance	3(3-0)
MGT-637	Financial Modeling	3(3-0)

SPECIALIZATION COURSES

HUMAN RESOURCE MANAGEMENT

Course Code	Course Title	Credit Hours
MGT-581	Leadership	3(3-0)
MGT-582	Organizational Development	3(3-0)
MGT-683	Human Resource Development	3(3-0)
MGT-684	Learning & Management Development	3(3-0)
MGT-685	Collective Bargaining & Wage Policy	3(3-0)
MGT-686	International Human Resource Management	3(3-0)
MGT-687	Strategic Human Resource Management	3(3-0)
MGT-688	Seminars in Human Resource Management	3(3-0)
MGT-689	Change Management	3(3-0)
MGT-682	Negotiations and Conflict Management	3(3-0)

SPECIALIZATION COURSES

ENTREPRENEURSHIP

Course Code	Course Title	Credit Hours
MGT-561	SME's Management	3(3-0)
MGT-562	Entrepreneurship and Innovation Strategy	3(3-0)
MGT-563	Social Entrepreneurship	3(3-0)
MGT-564	Women Entrepreneurship and Leadership	3(3-0)
MGT-565	Digital Entrepreneurship	3(3-0)
MGT-566	Product Innovation & Design	3(3-0)
MGT-567	Entrepreneurial Marketing	3(3-0)
MGT-568	Entrepreneurial Finance	3(3-0)

SPECIALIZATION COURSES

QUALITY MANAGEMENT

Course Code	Course Title	Credit Hours
MGT-550	Introduction to Quality Management	3(3-0)
MGT-551	Quality Management System and ISO	3(3-0)
MGT-552	Service Quality Management	3(3-0)
MGT-553	Quality Management Tools and Techniques	3(3-0)
MGT-554	Strategic Quality Management	3(3-0)

MGT-555	Design for Quality	3(3-0)
MGT-556	Seminars in Quality Management	3(3-0)
MGT-557	Research in Quality Management	3(3-0)
MGT-558	Research in Quality Management	3(3-0)
MGT-559	Quality Management Themes and Approaches	3(3-0)

SPECIALIZATION COURSES

SUPPLY CHAIN MANAGEMENT

Course Code	Course Title	Credit Hours
MGT-571	Introduction to Supply Chain Management	3(3-0)
MGT-572	Supply Chain Finance	3(3-0)
MGT-573	Global Logistics and Transportation	3(3-0)
MGT-575	Multimodal Transport Management Design	3(3-0)
MGT-576	Contemporary Issues in SCM	3(3-0)
MGT-577	Legal Aspects of Supply Chains	3(3-0)
MGT-578	Supply Network Planning and Design	3(3-0)
MGT-579	Inventory and Warehouse Management	3(3-0)

SPECIALIZATION COURSES		
ISLAMIC BANKING AND FINANCE		
Course Code	Course Title	Credit Hours
MGT-671	Shariah Fundamentals in Business and Finance	3(3-0)
MGT-672	Halal Standards and Regulations	3(3-0)
MGT-673	Zakat and Public Finance	3(3-0)
MGT-674	Islamic Banking Products and Operations	3(3-0)
MGT-675	Principles of Islamic Trade and Commerce	3(3-0)
MGT-676	Shariah Governance in Islamic Financial Institutions	3(3-0)
MGT-677	Insurance and Takaful Management	3(3-0)
MGT-678	Principles of Islamic Jurisprudence	3(3-0)

SCHEME OF STUDY BACHELOR IN ACCOUNTING AND FINANCE

Semester-I		
Course Code	Course Title	Credit Hours
QR-401	Quantitative Reasoning-I	3(3-0)
ENG-301	Functional English	3(3-0)
CS-100	Applications of Information and Communication Technologies	3(2-1)
MGT-411	Principles of Management	3(3-0)

MGT-321	Principles of Accounting	3(3-0)
ECON-301	Principles of Economics	3(3-0)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
QR-402	Quantitative Reasoning-II	3(3-0)
ANTH-401	Social psychology	2(2-0)
ENG-302	Expository Writing	3(3-0)
SSH-301	Civics and Community Engagement	2(2-0)
FQ-301	Fehm-e-Quran - I (for Muslim Students)	1(0-1)
MGT-351	Principles of Marketing	3(3-0)
MGT-322	Financial Accounting	3(3-0)
	Total	17

Semester-III		
Course Code	Course Title	Credit Hours
MGT-317	Entrepreneurship	2(2-0)
SSH-303	Pakistan Studies	2(2-0)
FQ-302	Fehm-e-Quran - II (for Muslim Students)	1(0-1)
MGT-512	Organizational Behavior	3(3-0)
MGT-473	Managerial Accounting	3(3-0)

MGT-475	Digital Transformation and Innovation	3(3-0)
MGT-409	CSR and Ethical Governance	3(3-0)
	Total	17

Semester-IV		
Course Code	Course Title	Credit Hours
NS-402	Science of Global Challenges	3(3-0)
SSH-302	Ideology and Constitution of Pakistan	2(2-0)
FL-302	Foreign Language	2(2-0)
IS-302	Islamic Studies	2(2-0)
MGT-424	Business Finance	3(3-0)
MGT-599	Financial Reporting	3(3-0)
	Total	15

Semester-V		
Course Code	Course Title	Credit Hours
MGT-597	Financial Markets & Institutions	3(3-0)
MGT-525	Financial Management	3(3-0)
MGT-595	Inferential Statistics	3(3-0)
MGT-662	Digital Marketing	3(3-0)
MGT-526	Money and Banking	3(3-0)
	Total	15

Semester-VI		
Course Code	Course Title	Credit Hours
MGT-600	Corporate Governance	3(3-0)
MGT-697	(Business & Management Relevant Certification) *	3(3-0)
MGT-513	Business Law and taxation	3(3-0)
	Elective-I	3(3-0)
	Elective-II	3(3-0)
	Total	15

Semester-VII		
Course Code	Course Title	Credit Hours
MGT-493	Business Research Methods	3(3-0)
MGT-583	Islamic Finance	3(3-0)
MGT-580	Strategic Management	3(3-0)
	Elective-III	3(3-0)
	Elective-IV	3(3-0)
MGT-698	Internship/Field Experience	3(3-0)
	Total	18

Semester-VIII		
Course Code	Course Title	Credit Hours
MGT-574	International Business	3(3-0)
MGT-592	Investment and Portfolio Management	3(3-0)
	Elective-V	3(3-0)
	Elective-VI	3(3-0)
MGT-699	Capstone Project	3(3-0)
	Total	15

ELECTIVE COURSES		
Course Code	Course Title	Credit Hours
MGT-604	Public Sector Accounting	3(3-0)
MGT-661	Advance Taxation	3(3-0)
MGT-606	Accounting Information Systems	3(3-0)
MGT-531	Analysis of Financial Statements	3(3-0)
MGT-608	International Accounting and Accounting for MNCs	3(3-0)
MGT-662	E-Accounting	3(3-0)
MGT-663	Advance Audit and Assurance	3(3-0)
MGT-651	Enterprise Resource Planning system for Finance	3(3-0)
MGT-637	Financial Modeling	3(3-0)
MGT-638	International Finance	3(3-0)
MGT-652	Contemporary issues in Accounting and Finance	3(3-0)

MGT-653	Financial Risk Management	3(3-0)
MGT-639	Money & Capital Markets	3(3-0)
FINT-501	Data structure & Algorithms in financial analysis	3(2-1)
FINT-611	Digital Derivatives & Fintech Advances	3(3-0)
FINT-613	Fintech-Enhanced Stock Trading	3(3-0)

SCHEME OF STUDY BACHELOR IN BUSINESS ANALYTICS

Semester-I		
Course Code	Course Title	Credit Hours
QR-401	Quantitative Reasoning-I	3(3-0)
ENG-301	Functional English	3(3-0)
CS-100	Applications of Information and Communication Technologies	3(2-1)
MGT-411	Principles of Management	3(3-0)
MGT-321	Fundamentals of Accounting	3(3-0)
ECON-301	Principles of Economics	3(3-0)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
QR-402	Quantitative Reasoning-II	3(3-0)
ANTH-401	Social Psychology	2(2-0)
ENG-302	Expository Writing	3(3-0)
SSH-301	Civics and Community Engagement	2(2-0)
FQ-301	Fehm-e-Quran - I (for Muslim Students)	1(0-1)
MGT-351	Principles of Marketing	3(3-0)
MGT-475	Digital transformation and innovation	3(3-0)
	Total	17

Semester-III		
Course Code	Course Title	Credit Hours
MGT-317	Entrepreneurship	2(2-0)
SSH-303	Pakistan Studies	2(2-0)
FQ-302	Fehm-e-Quran - II (for Muslim Students)	1(0-1)
MGT-512	Organizational Behavior	3(3-0)
MGT-473	Managerial Accounting	3(3-0)
BAN-301	Fundamentals of Business analytics	3(3-0)
MGT-409	CSR and Ethical Governance	3(3-0)
	Total	17

Semester-IV		
Course Code	Course Title	Credit Hours
NS-402	Science of Global Challenges	3(3-0)
SSH-302	Ideology and Constitution of Pakistan	2(2-0)
FL-302	Foreign Language	2(2-0)
IS-302	Islamic Studies	2(2-0)
MGT-424	Business Finance	3(3-0)
BAN-401	Data Analytics for business	3(3-0)
	Total	15

Semester-V		
Course Code	Course Title	Credit Hours
BAN-512	Predictive Analytics for Business	3(3-0)
MGT-525	Financial Management	3(3-0)
MGT-595	Inferential Statistics	3(3-0)
MGT-662	Digital Marketing	3(3-0)
BAN-511	Data Mining for Business	3(3-0)
	Total	15

Semester-VI		
Course Code	Course Title	Credit Hours
FINT-501	Data structure & Algorithms in Financial Analysis	3(2-3)
MGT-697	(Business & Management Relevant Certification) *	3(3-0)
MGT-513	Business Law and taxation	3(3-0)
	Elective-I	3(3-0)
	Elective-II	3(3-0)
	Total	15

Semester-VII		
Course Code	Course Title	Credit Hours
MGT-493	Business Research Methods	3(3-0)
FINT-624	Data Visualization	3(3-0)
MGT-580	Strategic Management	3(3-0)
	Elective-III	3(3-0)
	Elective-IV	3(3-0)
MGT-698	Internship/Field Experience	3(3-0)
	Total	18

Semester-VIII		
Course Code	Course Title	Credit Hours
BAN-612	Machine Learning Applications in Business	3(2-1)
MGT-606	Accounting information system	3(3-0)
	Elective-V	3(3-0)
	Elective-VI	3(3-0)
MGT-699	Capstone Project	3(3-0)
	Total	15

ELECTIVE COURSES		
Course Code	Course Title	Credit Hours
BAN-613	Big Data Management & Analytics	3(3-0)
BAN-614	Marketing & Customer Analytics	3(3-0)
BAN-615	Financial & Risk Analytics	3(3-0)
BAN-616	Supply Chain & Operations Analytics	3(3-0)
BAN-617	Text Mining & Social Media Analytics	3(3-0)
BAN-618	HR & People Analytics	3(3-0)
BAN-619	Decision Modeling & Optimization	3(3-0)
CSC-202	Information Security	3 (2-1)
BAN-620	Business Intelligence Systems & Dashboards	3(3-0)
BAN-621	Analytics for Sustainability & ESG	3(3-0)

SCHEME OF STUDY BACHELOR OF SCIENCE (FINANCIAL TECHNOLOGY)

Semester-I		
Course Code	Course Title	Credit Hours
CSC-100	Application of Information and Communication Technologies (ICT)	3 (2-3)
ENG-301	Functional English	3(3-0)
IS-302	Islamic Studies/Ethics	2(2-0)
SSH-303	Pakistan Studies	2(2-0)
MGT-321	Fundamentals of Accounting	3(3-0)

MGT-411	Principles of Management	3(3-0)
TOQ-301	Translation of Quran	NC
	Total	16

Semester-II

Course Code	Course Title	Credit Hours
ENG-302	Expository Writing	3(3-0)
SSH-302	Ideology and Constitution of Pakistan	2(2-0)
SOS-302	Seerat Studies	2(2-0)
MGT-391	Business Mathematics	3(3-0)
ECON-302	Introduction to Microeconomics	3(3-0)
MGT-322	Financial Accounting	3(3-0)
	Total	16

Semester-III

Course Code	Course Title	Credit Hours
MGT-424	Introduction to business finance	3(3-0)
MGT-351	Principles of Marketing	3(3-0)
SSH-301	Civics and Community Development	2(2-0)
MGT-444	Digital Entrepreneurship	3(2-3)
QR-401	Quantitative Reasoning-I	3(3-0)
ECON-304	Introduction to Macroeconomics	3(3-0)

TOQ-401	Translation of Quran	NC
	Total	17

Semester-IV		
Course Code	Course Title	Credit Hours
MGT-424	Introduction to business finance	3(3-0)
MGT-351	Principles of Marketing	3(3-0)
SSH-301	Civics and Community Development	2(2-0)
MGT-444	Digital Entrepreneurship	3(2-3)
QR-401	Quantitative Reasoning-I	3(3-0)
ECON-304	Introduction to Macroeconomics	3(3-0)
	Total	19

Semester-V		
Course Code	Course Title	Credit Hours
MGT-502	Principles of Auditing	3(3-0)
MGT-602	Business Taxation	3(3-0)
MGT-351	Principles of Marketing	3(3-0)
CSC-103	Database systems	4 (3-3)
MGT-597	Financial Markets & Institutions	3(3-0)
TOQ-501	Translation of Quran	NC
	Total	15

Semester-VI		
Course Code	Course Title	Credit Hours
MGT-599	Financial Reporting	3(3-0)
FINT-501	Data structure & Algorithms in Financial Analysis	3(2-3)
MGT-631	Securities Analysis & Portfolio Management	3(3-0)
FINT-502	Artificial Intelligence in Business Decision	3(3-0)
FINT-503	Fintech and Financial Transformation	3(3-0)
	Total	15

Semester-VII		
Course Code	Course Title	Credit Hours
FINT-601	Block chain technology for business	3(3-0)
FINT-602	Business analytics	3(3-0)
MGT-512	Organizational Behavior	3(3-0)
	ELECTIVE-I	3(3-0)
	ELECTIVE-II	3(3-0)
TOQ-601	Translation of Quran	NC
MGT-698	Internship	3(0-6)
	Total	18

Semester-VIII		
Course Code	Course Title	Credit Hours
MGT-632	Introduction to Financial Risk Management	3(3-0)
MGT - 606	Accounting information system	3(3-0)
	ELECTIVE-III	3(3-0)
	ELECTIVE-IV	3(3-0)
MGT-699	Project	3(0-6)
	Total	15

SPECIALIZATION COURSES		
FINANCIAL TECHNOLOGIES		
Course Code	Course Title	Credit Hours
FINT-611	Digital Derivatives & Fintech Advances	3(3-0)
FINT-612	Financial Modeling & Simulations	3(3-0)
FINT-613	Fintech-Enhanced Stock Trading	3(3-0)
FINT-614	Fintech Startups and Entrepreneurship	3(3-0)
FINT-621	Cryptography for Finance	3(3-0)
FINT-622	Digital Banking	3(3-0)
CSC-251	Web Technologies	3(2-3)
FINT-623	Machine Learning in Finance	3(3-0)
FINT-624	Data Visualization	3(3-0)
CSC-202	Information Security	3(2-3)

SCHEME OF STUDY MASTER OF BUSINESS ADMINISTRATION

Semester-I		
Course Code	Course Title	Credit Hours
MGT-703	Principles of Management	3(3-0)
MGT-705	Economic Theory	3(3-0)
MGT-706	Business Communications	3(3-0)
MGT-719	Fundamentals of Business Finance	3(3-0)
MGT-702	Principles of Accounting	3(3-0)
MGT-726	Marketing Management	3(3-0)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
MGT-725	Financial Management	3(3-0)
MGT-763	Managerial Accounting	3(3-0)
MGT-709	Statistical Methods in Business	3(3-0)
MGT-717	HRM & Organizational Behavior	3(3-0)
MGT-753	Trends in Global Business	3(3-0)
	Total	15

Semester-III		
Course Code	Course Title	Credit Hours
MGT-750	Business Research Methodology	3(3-0)
MGT-751	Management, Organizational Policy and Practices	3(3-0)
MGT-730	Business Law	3(3-0)
	Elective I (Specialization)	3(3-0)
	Elective I (Specialization)	3(3-0)
	Total	17

Semester-IV		
Course Code	Course Title	Credit Hours
MGT-756	Data Analysis and Decision Making	3(3-0)
	Elective III (Specialization)	3(3-0)
	Elective IV (Specialization)	3(3-0)
MGT-798	Business Capstone Project	6(0-12)
	Total	15

*The offering of specializations is subject to adequate student enrollment

ELECTIVE COURSES**MARKETING**

Course Code	Course Title	Credit Hours
MKT-701	Research Techniques in Marketing	3(3-0)
MKT-703	Strategy Marketing Planning	3(3-0)
MKT-705	Marketing Channels	3(3-0)
MKT-707	Contemporary Issues in Marketing	3(3-0)
MKT-708	Customer Relationship Management	3(3-0)
MKT-709	E-Marketing	3(3-0)
MKT-710	Social Marketing	3(3-0)

ELECTIVE COURSES**HUMAN RESOURCE MANAGEMENT**

Course Code	Course Title	Credit Hours
HRM-701	Recruitment and Selection	3(3-0)
HRM-708	Strategic Human Resource Management	3(3-0)
HRM-710	Compensation Management	3(3-0)
HRM-711	Performance Management	3(3-0)
HRM-712	Conflict and Negotiation Management	3(3-0)

HRM-713	Change Management and Human Resources	3(3-0)
HRM-714	Training and Development	3(3-0)
HRM-715	Contemporary Issues in Human Resources Management	3(3-0)

ELECTIVE COURSES

FINANCE

Course Code	Course Title	Credit Hours
FIN-704	Taxation	3(3-0)
FIN-706	Monetary Theory and Policy	3(3-0)
FIN-707	Financial Modeling and Risk Analysis	3(3-0)
FIN-708	Financial Derivatives	3(3-0)
FIN-709	Islamic Banking	3(3-0)
FIN-710	Economic Analysis and Policies	3(3-0)
FIN-711	Behavioral Finance	3(3-0)
FIN-712	Financial Risk Management	3(3-0)
FIN-713	Advanced Corporate Finance	3(3-0)
FIN-714	Contemporary Issues in Finance	3(3-0)
FIN-715	Stock Market Efficiency	3(3-0)
FIN-716	Advances in International Finance	3(3-0)

ELECTIVE COURSES		
SUPPLY CHAIN MANAGEMENT		
Course Code	Course Title	Credit Hours
SC-731	Operations and Supply Chain Management	3(3-0)
SC-732	Supplier Selection and Evaluation	3(3-0)
SC -733	Strategic Supply Chain Management	3(3-0)
SC-734	Supply Chain Risk Management	3(3-0)
SC-735	Quality Assurance in Supply Chains	3(3-0)
SC-736	Supply Chain Modeling	3(3-0)

ELECTIVE COURSES		
SUPPLY CHAIN MANAGEMENT		
Course Code	Course Title	Credit Hours
QM-500	Customer Focused Product Development	3(3-0)
QM-501	Reliability and Quality Management	3(3-0)
QM-502	Organizational Excellence	3(3-0)
QM-503	Quality Management Systems and International Standards	3(3-0)
QM-504	Lean Thinking and Practices	3(3-0)
QM-505	Six Sigma Quality	3(3-0)
QM-506	Sustainability Management	3(3-0)

SCHEME OF STUDY MASTER OF SCIENCES (MANAGEMENT SCIENCE)

Semester-I		
Course Code	Course Title	Credit Hours
MGT-750	Business Research Methodology	3(3-0)
MGT-751	Management, Organizational Policy and Practices	3(3-0)
MGT-720	Seminar - I	1(1-0)
	Elective/ Specialization I	3(3-0)
	Elective/ Specialization II	3(3-0)
	Total	13

Semester-II		
Course Code	Course Title	Credit Hours
MGT-754	Statistical and Analytical Techniques	3(3-0)
MGT-753	Trends in Global Business	3(3-0)
MGT-721	Special Problem	1(1-0)
	Elective/ Specialization -III	3(3-0)
	Elective/ Specialization -IV	3(3-0)
	Total	13

Semester-III		
Course Code	Course Title	Credit Hours
MGT-799	Thesis	6(0-12)
	Total	6

Semester-IV		
Course Code	Course Title	Credit Hours
MGT-799	Thesis	6(0-12)
	Total	6
ELECTIVE COURSES		
MARKETING		
Course Code	Course Title	Credit Hours
MKT-701	Marketing Research	3(3-0)
MKT-703	Strategic Marketing Planning	3(3-0)
MKT-705	Marketing Channels	3(3-0)
MKT-707	Contemporary Issues in Marketing	3(3-0)
MKT-708	Customer Relationship Management	3(3-0)
MKT-709	E-Marketing	3(3-0)
MKT-710	Social Marketing	3(3-0)

ELECTIVE COURSES		
FINANCE		
Course Code	Course Title	Credit Hours
FIN-704	Taxation	3(3-0)
FIN-706	Monetary Theory and Policy	3(3-0)
FIN-707	Financial Modeling and Risk Analysis	3(3-0)
FIN-708	Financial Derivatives	3(3-0)
FIN-709	Islamic Banking	3(3-0)
FIN-710	Economic Analysis and Policies	3(3-0)
FIN-711	Behavioral Finance	3(3-0)
FIN-712	Financial Risk Management	3(3-0)
FIN-713	Advanced Corporate Finance	3(3-0)
FIN-714	Contemporary Issues in Finance	3(3-0)
FIN-715	Stock Market Efficiency	3(3-0)
FIN-716	Advances in International Finance	3(3-0)

ELECTIVE COURSES		
HUMAN RESORUCE MANAGEMENT		
Course Code	Course Title	Credit Hours
HRM-701	Recruitment and Selection	3(3-0)

HRM-708	Strategic Human Resource Management	3(3-0)
HRM-710	Compensation Management	3(3-0)
HRM-711	Performance Management	3(3-0)
HRM-712	Conflict and Negotiation Management	3(3-0)
HRM-713	Change Management and Human Resources	3(3-0)
HRM-714	Training and Development	3(3-0)
HRM-715	Contemporary Issues in Human Resource Management	3(3-0)

ELECTIVE COURSES

SUPPLY CHAIN MANAGEMENT

Course Code	Course Title	Credit Hours
SC-731	Operations and Supply Chain Management	3(3-0)
SC-732	Supplier Selection and Evaluation	3(3-0)
SC-733	Strategic Supply Chain Management	3(3-0)
SC-734	Supply Chain Risk Management	3(3-0)
SC-735	Quality Assurance in Supply Chains	3(3-0)
SC-736	Supply Chain Modeling	3(3-0)

ELECTIVE COURSES		
QUALITY MANAGEMENT		
Course Code	Course Title	Credit Hours
QM-500	Customer Focused Product Development	3(3-0)
QM-501	Reliability and Quality Management	3(3-0)
QM-502	Organizational Excellence	3(3-0)
QM-503	Quality Management Systems and International Standards	3(3-0)
QM-504	Lean Thinking and Practices	3(3-0)
QM-505	Six Sigma Quality	3(3-0)
QM-506	Sustainability Management	3(3-0)

SCHEME OF STUDY DOCTOR OF PHILOSOPHY (MANAGEMENT SCIENCE)

Semester-I		
Course Code	Course Title	Credit Hours
MGT-771	Management Thoughts and Philosophy	3(3-0)
MGT-772	Advanced Research Techniques	3(3-0)
MGT-820	Seminar - I	1(1-0)
FQ-301	Fehm e Quran-1	1(0-1)
	Elective/ Specialization I	3(3-0)
	Total	14

Semester-II		
Course Code	Course Title	Credit Hours
MGT-773	Special Topics in Management Sciences	3(3-0)
STAT-787	Advanced Statistical and Analytical Techniques	3(3-0)
MGT-821	Seminar - II	1(1-0)
FQ-302	Fehm e Quran-II	1(0-1)
	Elective/ Specialization -II	3(3-0)
	Total	14

Semester-III		
Course Code	Course Title	Credit Hours
MGT-799	Research Thesis	50(0-100)
	Total	50

ELECTIVE COURSES FOR THE SPECIALIZATIONS OFFERED IN PHD (MANAGEMENT SCIENCES)		
MARKETING		
Course Code	Course Title	Credit Hours
MKT-701	Marketing Research	3(3-0)
MKT-703	Strategic Marketing Planning	3(3-0)
MKT-705	Marketing Channels	3(3-0)
MKT-707	Contemporary Issues in Marketing	3(3-0)
MKT-708	Customer Relationship Management	3(3-0)
MKT-709	E-Marketing	3(3-0)
MKT-710	Social Marketing	3(3-0)

FINANCE		
Course Code	Course Title	Credit Hours
FIN-704	Taxation	3(3-0)

FIN-706	Monetary Theory and Policy	3(3-0)
FIN-707	Financial Modeling and Risk Analysis	3(3-0)
FIN-708	Financial Derivatives	3(3-0)
FIN-709	Islamic Banking	3(3-0)
FIN-710	Economic Analysis and Policies	3(3-0)
FIN-711	Behavioral Finance	3(3-0)
FIN-712	Financial Risk Management	3(3-0)
FIN-713	Advanced Corporate Finance	3(3-0)
FIN-714	Contemporary Issues in Finance	3(3-0)
FIN-715	Stock Market Efficiency	3(3-0)
FIN-716	Advances in International Finance	3(3-0)

HUMAN RESOURCE MANAGEMENT

Course Code	Course Title	Credit Hours
HRM-701	Recruitment and Selection	3(3-0)
HRM-708	Strategic Human Resource Management	3(3-0)
HRM-710	Compensation Management	3(3-0)
HRM-711	Performance Management	3(3-0)
HRM-712	Conflict and Negotiation Management	3(3-0)
HRM-713	Change Management and Human Resources	3(3-0)
HRM-714	Training and Development	3(3-0)
HRM-715	Contemporary Issues in Human Resource Management	3(3-0)

UNIVERSITY INSTITUTE OF INFORMATION TECHNOLOGY

Director of the Institute

Prof. Dr. Yaser Hafeez



The University Institute of Information Technology (UIIT) was established at the PMAS Arid Agriculture University Rawalpindi, Pakistan to address the growing need for skilled professionals in software development and technology. Since its inception in 2001, UIIT has grown significantly and now offers undergraduate and postgraduate programs in Computer Science with specialization in Artificial Intelligence, Software Engineering & General Computing. The institute currently serves around 2,000 undergraduates, 99 postgraduates and has a Ph.D. program in Computer Science. Our well-equipped computer labs provide a conducive learning environment for research and development.

UIIT is committed to contributing to the national effort to produce world-class human resources by developing a sustainable IT education system that meets the country's technological needs.



Faculty of the Institute

Director

Assistant Registrars

Assistant Professors

Lecturers

Prof. Dr. Yaser Hafeez

Mr. Muhammad Usman Javed

Mr. Shahid Ashraf

Dr. Rubina Ghazal

Dr. Saqib Majeed

Dr. Saif Ur Rehman

Dr. Muhammad Aqib

Dr. Kashif Sattar

Dr. Tariq Ali

Dr. Asif Nawaz

Dr. Ghulam Mustafa

Dr. Rehan Mehmood Yousaf

Dr. Sadia Ali

Dr. Muhammad Habib

Dr. Ruqia Bibi

Ms. Iram Rubab

Dr. Bushra Hamid

Dr. Farkhanda Qamar

Dr. Sidra Tahir

Dr. Noureen Zafar

Dr. Sarfraz Bibi

Dr. Marya Iqbal

Mr. Muhammad Azhar Manzoor

Dr. Hafiz Muhammad Faisal

Mr. Muhammad Ahsan Arshad

Ms. Nergis Gulzar Abbasi

Mr. Muhammad Azhar

Ms. Aiman Khan Nazir

Ms. Saba Un Nisa

Mr. Fahad Burhan Ahmad



DEGREE PROGRAMS OFFERED IN UIIT

BS (CS) Specialized in General Computing / Artificial Intelligence / Software Engineering

Admission and Registration:-

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.

Bachelor of Engineering (Cyber Security)/(Information)

Admission and Registration:-

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



Note:- Those students who have Pre-Medical background, must pass deficiency courses of Mathematics of up to 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.

Admission Authority:-

The Director of the Institute shall be responsible for admission to the programme.

AGE: A candidate must not be more than 25 years of age on 1st date of semester of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

To remain on the roll of the University a student shall require to maintain the following minimum

CGP A 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

Academic Standing:

Grade Point Average

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

Explanation:

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



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:

- 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.
- 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 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	2.00
3rd	2.25
4th	2.50

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.
- The applications of the candidates must be accompanied with a comprehensive proposal that he/she may intends 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 intend from employer for study leave from the start of admission date.

SCHEME OF STUDY BACHELOR OF SCIENCE (COMPUTER SCIENCE) SPECIALIZATION IN ARTIFICIAL INTELLIGENCE

Semester-I		
Course Code	Course Title	Credit Hours
CSC-110	Discrete Structures (Quantitative Reasoning-I)	3(3-0)
ENG-101	Functional English	3(3-0)
CSC-100	Applications of Information and Communication Technologies	3(2-3)
SSH-303	Pakistan Studies	2(2-0)
CSC-101	Programming Fundamentals	4(3-3)
MTH-101	Calculus & Analytical Geometry (Interdisciplinary/Allied - I)	3(3-0)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
MTH-102	Multivariable Calculus(Quantitative Reasoning-II)	3(3-0)
CSC-103	Database Systems	4(3-3)
SOS-302	Seerat Studies	2(2-0)
FQ-301	Fehm-e-Quran - I	1(0-3)
CSC-102	Object Oriented Programming	4(3-3)
CSC-111	Digital Logic Design	4(3-3)

MTH-103	Linear Algebra (Interdisciplinary/Allied - II)	3(3-0)
MTH-102	Multivariable Calculus (Quantitative Reasoning-II)	3(3-0)
	Total	21

Semester-III		
Course Code	Course Title	Credit Hours
CSC-204	Computer Networks	3(2-3)
CSC-202	Information Security	3(2-3)
CSC-203	Artificial Intelligence	3(2-3)
CSC-201	Data Structures	4(3-3)
CSC-205	Software Engineering	3(3-0)
STT-101	Probability & Statistics (Interdisciplinary/Allied - III)	3(3-0)
	Total	19

Semester-IV		
Course Code	Course Title	Credit Hours
CSC-302	Theory of Automata	3(3-0)
	Elective-I	3(2-3)
ENG-201	Expository Writing	3(3-0)
IS-201	Islamic Studies	2(2-0)
	Elective-II	3(2-3)
CSC-212	Computer Organization & Architecture	3(2-3)
	Total	17

Semester-V		
Course Code	Course Title	Credit Hours
PHY-201	Applied Physics (Natural Science)	3(2-3)
	Elective-III	3(2-3)
	Elective-IV	3(2-3)
CSC-311	Operating Systems	4(3-3)
MGT-335	Digital Marketing & E-Commerce (Interdisciplinary/Allied - IV)	3(3-0)
SSH-404	Ideology & Constitution of Pakistan	2(2-0)
	Total	18

Semester-VI		
Course Code	Course Title	Credit Hours
CSC-355	Cloud Computing	3(2-3)
CSC-402	Design & Analysis of Algorithms	3(3-0)
	Elective-V	3(2-3)
	Elective-VI	3(2-3)
	Elective-VII	3(2-3)
SSH-401	Entrepreneurship	2(2-0)
	Total	17

Semester-VII		
Course Code	Course Title	Credit Hours
CSC-498	Final Year Project I	2(0-6)
	Elective-VIII	3(2-3)
SSH-301	Introduction to Management (Social Science)	2(2-0)
FQ-302	Fehm e Quran II	1(0-3)
SSH-403	Civics and Community Engagement	2(2-0)
CSC-497	Professional Certification	3(3-0)
	Total	13

Semester-VIII		
Course Code	Course Title	Credit Hours
CSC-499	Final Year Project II	4(0-12)
CSC-399	Field Experience	3(3-0)
SSH-402	Professional Practices (Arts & Humanities)	2(2-0)
	Total	9

SCHEME OF STUDY BACHELOR OF SCIENCE (COMPUTER SCIENCE) SPECIALIZATION IN SOFTWARE ENGINEERING

Semester-I		
Course Code	Course Title	Credit Hours
CSC-110	Discrete Structures (Quantitative Reasoning-I)	3(3-0)
ENG-101	Functional English	3(3-0)
CSC-100	Applications of Information and Communication Technologies	3(2-3)
SSH-303	Pakistan Studies	2(2-0)
CSC-101	Programming Fundamentals	4(3-3)
MTH-101	Calculus & Analytical Geometry (Interdisciplinary/Allied - I)	3(3-0)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
MTH-102	Multivariable Calculus(Quantitative Reasoning-II)	3(3-0)
CSC-103	Database Systems	4(3-3)
SOS-302	Seerat Studies	2(2-0)
FQ-301	Fehm-e-Quran - I	1(0-3)
CSC-102	Object Oriented Programming	4(3-3)
CSC-111	Digital Logic Design	4(3-3)

MTH-103	Linear Algebra (Interdisciplinary/Allied - II)	3(3-0)
	Total	21

Semester-III		
Course Code	Course Title	Credit Hours
CSC-204	Computer Networks	3(2-3)
CSC-202	Information Security	3(2-3)
CSC-203	Artificial Intelligence	3(2-3)
CSC-201	Data Structures	4(3-3)
CSC-205	Software Engineering	3(3-0)
STT-101	Probability & Statistics (Interdisciplinary/Allied - III)	3(3-0)
	Total	19

Semester-IV		
Course Code	Course Title	Credit Hours
CSC-302	Theory of Automata	3(3-0)
	Elective-I	3(2-3)
ENG-201	Expository Writing	3(3-0)
IS-201	Islamic Studies	2(2-0)
	Elective-II	3(2-3)
CSC-212	Computer Organization & Architecture	3(2-3)
	Total	17

Semester-V		
Course Code	Course Title	Credit Hours
PHY-201	Applied Physics (Natural Science)	3(2-3)
	Elective-III	3(2-3)
	Elective-IV	3(2-3)
CSC-311	Operating Systems	4(3-3)
MGT-335	Digital Marketing & E-Commerce(Interdisciplinary/Allied - IV)	3(3-0)
SSH-404	Ideology & Constitution of Pakistan	2(2-0)
	Total	18

Semester-VI		
Course Code	Course Title	Credit Hours
CSC-355	Cloud Computing	3(2-3)
CSC-402	Design & Analysis of Algorithms	3(3-0)
	Elective-V	3(2-3)
	Elective-VI	3(2-3)
	Elective-VII	3(2-3)
SSH-401	Entrepreneurship	2(2-0)
	Total	17

Semester-VII		
Course Code	Course Title	Credit Hours
CSC-498	Final Year Project I	2(0-6)
	Elective-VIII	3(2-3)
SSH-301	Introduction to Management (Social Science)	2(2-0)
FQ-302	Fehm e Quran II	1(0-3)
SSH-403	Civics and Community Engagement	2(2-0)
CSC-497	Professional Certification	3(3-0)
	Total	13

Semester-VIII		
Course Code	Course Title	Credit Hours
CSC-499	Final Year Project II	4(0-12)
CSC-399	Field Experience	3(3-0)
SSH-402	Professional Practices (Arts & Humanities)	2(2-0)
	Total	9

SCHEME OF STUDY BACHELOR OF SCIENCE (COMPUTER SCIENCE) SPECIALIZATION IN GENERAL COMPUTING

Semester-I		
Course Code	Course Title	Credit Hours
CSC-110	Discrete Structures (Quantitative Reasoning-I)	3(3-0)
ENG-101	Functional English	3(3-0)
CSC-100	Applications of Information and Communication Technologies	3(2-3)
SSH-303	Pakistan Studies	2(2-0)
CSC-101	Programming Fundamentals	4(3-3)
MTH-101	Calculus & Analytical Geometry (Interdisciplinary/Allied - I)	3(3-0)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
MTH-102	Multivariable Calculus (Quantitative Reasoning-II)	3(3-0)
CSC-103	Database Systems	4(3-3)
SOS-302	Seerat Studies	2(2-0)
FQ-301	Fehm-e-Quran - I	1(0-3)
CSC-102	Object Oriented Programming	4(3-3)
CSC-111	Digital Logic Design	4(3-3)

MTH-103	Linear Algebra (Interdisciplinary/Allied - II)	3(3-0)
	Total	21

Semester-III		
Course Code	Course Title	Credit Hours
CSC-204	Computer Networks	3(2-3)
CSC-202	Information Security	3(2-3)
CSC-203	Artificial Intelligence	3(2-3)
CSC-201	Data Structures	4(3-3)
CSC-205	Software Engineering	3(3-0)
STT-101	Probability & Statistics (Interdisciplinary/Allied - III)	3(3-0)
	Total	19

Semester-IV		
Course Code	Course Title	Credit Hours
CSC-302	Theory of Automata	3(3-0)
	Elective-I	3(2-3)
ENG-201	Expository Writing	3(3-0)
IS-201	Islamic Studies	2(2-0)
	Elective-II	3(2-3)
CSC-212	Computer Organization & Architecture	3(2-3)
	Total	17

Semester-V		
Course Code	Course Title	Credit Hours
PHY-201	Applied Physics (Natural Science)	3(2-3)
	Elective-III	3(2-3)
	Elective-IV	3(2-3)
CSC-311	Operating Systems	4(3-3)
MGT-335	Digital Marketing & E-Commerce (Interdisciplinary/Allied - IV)	3(3-0)
SSH-404	Ideology & Constitution of Pakistan	2(2-0)
	Total	18

Semester-VI		
Course Code	Course Title	Credit Hours
CSC-355	Cloud Computing	3(2-3)
CSC-402	Design & Analysis of Algorithms	3(3-0)
	Elective-V	3(2-3)
	Elective-VI	3(2-3)
	Elective-VII	3(2-3)
SSH-401	Entrepreneurship	2(2-0)
	Total	17

Semester-VII		
Course Code	Course Title	Credit Hours
CSC-498	Final Year Project I	2(0-6)
	Elective-VIII	3(2-3)
SSH-301	Introduction to Management(Social Science)	2(2-0)
FQ-302	Fehm e Quran II	1(0-3)
SSH-403	Civics and Community Engagement	2(2-0)
CSC-497	Professional Certification	3(3-0)
	Total	13

Semester-VIII		
Course Code	Course Title	Credit Hours
CSC-499	Final Year Project II	4(0-12)
CSC-399	Field Experience	3(3-0)
SSH-402	Professional Practices (Arts & Humanities)	2(2-0)
	Total	9

SCHEME OF STUDY BACHELOR OF ENGINEERING TECHNOLOGY (INFORMATION)

Semester-I		
Course Code	Course Title	Credit Hours
CSC-100	Application of Information & Communication Technologies	3(2-3)
CSC-101	Programming Fundamentals	4(3-3)
ELE-401	Basic Electronics	3(2-3)
MTH-101	Calculus and Analytic Geometry	3(3-0)
ENG-102	Functional English	3(3-0)
FQ-301	Fehm e Quran I	1(0-3)
SSH-303	Pakistan Studies	2(2-0)
	Total	19

Semester-II		
Course Code	Course Title	Credit Hours
CSC-102	Object Oriented Programming	4(3-3)
CSC-110	Discrete Structures	3(3-0)
CSC-206	Electronic Devices and Circuits	3(2-3)
MTH-103	Linear Algebra	3(3-0)
IS-201	Islamic Studies/Ethics	2(2-0)
FQ-302	Fehm e Quran II	1(0-3)
CSC-103	Database Systems	4(3-3)
	Total	20

Semester-III		
Course Code	Course Title	Credit Hours
CSC-111	Digital Logic Design	3(2-3)
CSC-201	Data Structures	4(3-3)
CSC-205	Software Engineering	3(3-0)
CSC-204	Computer Networks	3(2-3)
SOS-302	Seerat Studies	2(2-0)
ENG-201	Expository Writing	3(3-0)
	Total	18

Semester-IV		
Course Code	Course Title	Credit Hours
CSC-301	Operating Systems	3(2-3)
CSC-211	Computer Organization & Assembly Language	3(2-3)
ELE-270	IDTE-1 (Signal & System)	3(2-3)
CSC-252	Advanced Programming	3(2-3)
CSE-422	Software Testing & Quality Assurance	3(2-3)
CSE-322	Software Project Management	3(2-3)
	Total	18

Semester-V		
Course Code	Course Title	Credit Hours
STT-101	Probability and Statistics	3(3-0)
CSC-203	Artificial Intelligence	3(2-3)
CSC-449	Cloud Computing	3(2-3)
CSC-498	Final Year Project-I	3(3-0)
ENG-401	Technical & Business Writing	3(3-0)
	Total	15

Semester-VI		
Course Code	Course Title	Credit Hours
CSC-436	Big Data Analytics	3(2-3)
CSC-354	Cyber Security	3(2-3)
SSH-401	Entrepreneurship	2(2-0)
ELE-271	IDTE-2 (Control Tech)	3(3-0)
SSH-402	Professional Practices	3(3-0)
CSC-499	Final Year Project-II	3(3-0)
	Total	17

Semester-VII		
Course Code	Course Title	Credit Hours
SIT-498	Supervised Industrial Training	16
OR		
CSC-251	Web Technologies	3(2-3)
CSC-258	Virtual Systems & Services	4(3-3)
CAI-262	Machine Learning	3(2-3)
CAI-361	Artificial Neural Networks & Deep Learning	3(2-3)
CSC-353	Mobile Application Development 1	3(2-3)
	Total	13

Semester-VIII		
Course Code	Course Title	Credit Hours
SIT-499	Supervised Industrial Training	16
	Total	16

SCHEME OF STUDY BACHELOR OF ENGINEERING TECHNOLOGY (CYBER SECURITY)

Semester-I		
Course Code	Course Title	Credit Hours
MTH-101	Calculus & Analytical Geometry	3(3-0)
IS-201	Islamic Studies/Ethics	2(2-0)
PHY-201	Applied Physics	3(2-3)
ENG-102	Functional English	3(3-0)
CSC-100	Application of Information & Communication Technologies	3(2-3)
CS-101	Programming Fundamentals	4(3-3)
FQ-301	Fehm e Quran I	1(0-3)
	Total	19

Semester-II		
Course Code	Course Title	Credit Hours
CSC-204	Computer Networks	3(2-3)
CYS-101	Introduction to Cybersecurity	3(3-0)
CSC-102	Object Oriented Programming	4(3-3)
CSC-110	Discrete Structure	3(3-0)
SSH-302	Pakistan Studies	2(2-0)
ENG-201	Expository Writing	3(3-0)
FQ-302	Fehm e Quran II	1(0-3)
	Total	19

Semester-III		
Course Code	Course Title	Credit Hours
CSC-201	Data Structures	4(3-3)
CYS-202	Information Privacy and Security	3(2-3)
CYS-203	Information System Audit	3(3-0)
CYS-204	Cyber Risk Management	3(2-3)
MTH-102	Linear Algebra	3(3-0)
SOS-302	Seerat Studies	2(2-0)
	Total	18

Semester-IV		
Course Code	Course Title	Credit Hours
CYS-207	IT Forensics and Investigation	3(3-0)
CSC-103	Database Systems	4(3-3)
CSC-301	Operating Systems	3(2-3)
CYS-210	Principals of Data Protection	3(3-0)
MTH-104	Differential Equations	3(3-0)
CYS-207	IT Forensics and Investigation	3(3-0)
	Total	16

Semester-V		
Course Code	Course Title	Credit Hours
CYS-301	Network Security	3(2-3)
CYS-302	Cryptography	3(2-3)
CYS-303	Intrusion Detection Systems	3(3-0)
CSC-205	Software Engineering	3(3-0)
CSC-251	Web Technologies	3(2-3)
ENG-401	Technical & Business Writing	3(3-0)
	Total	15

Semester-VI		
Course Code	Course Title	Credit Hours
CYS-307	Secure Software Design	3(3-0)
MS-308	Security of Smart Devices	3(2-3)
CYS-309	Design & Analysis of Algorithms	3(3-0)
CYS-310	Cloud Computing and Security	3(2-3)
CYS-311	Computer Forensics	3(3-0)
SSH-401	Entrepreneurship	2(2-0)
	Total	17

Semester-VII		
Course Code	Course Title	Credit Hours
CYS-401	Trusted Supervised Industrial Training-I	16
OR		
CSC-251	Web Technologies	3(2-3)
CSC-258	Virtual Systems & Services	4(3-3)
CAI-262	Machine Learning	3(2-3)
CAI-361	Artificial Neural Networks & Deep Learning	3(2-3)
CSC-353	Mobile Application Development 1	3(2-3)
	Total	16

Semester-VIII		
Course Code	Course Title	Credit Hours
SYS-499	Supervised Industrial Training	16
	Total	16

SCHEME OF STUDY MASTER OF SCIENCE COMPUTER SCIENCE		
Course Code	Course Title	Credit Hours
CSC-718	Theory of Computation	3(3-0)
CSC-719	Advanced Operating Systems	3(3-0)
CSC-721	Advanced Algorithm Analysis	3(3-0)
CSC-763	Research Methods & Statistical Analysis	3(3-0)
CSC-708	Special Problem	1(1-0)
CSC-720	Seminar-I	1(1-0)
CSC-799	MS Thesis	6(0-12)
SPECIALIZATION IN SOFTWARE ENGINEERING		
CSE-726	Advanced Software Engineering	3(3-0)
CSE-732	Object Oriented Software Engineering	3(3-0)
CSE-734	Formal Software Specification and Development	3(3-0)
CSE-736	Software Quality Assurance	3(3-0)
CSE-738	Software Requirements Engineering	3(3-0)
CSE-739	Software Engineering Processes	3(3-0)
CSE-742	Software Project Management	3(3-0)
CSE-743	Trends in Software Engineering	3(3-0)
CSE-744	Software Analysis and Design Patterns	3(3-0)
CSE-746	Topics in Object Oriented Analysis and Design	3(3-0)
CSE-748	Software Architecture	3(3-0)
SPECIALIZATION IN NETWORKS		
CSN-750	Advanced Computer Networks	3(3-0)
CSN-751	Network Security	3(3-0)
CSN-752	Wireless Networks	3(3-0)

CSN-755	Integrated Services Over Packet Networks	3(3-0)
CSN-756	Network Transfer Protocol	3(3-0)
CSN-759	Network Management	3(3-0)
CSN-760	Networked Multimedia Services	3(3-0)
CSN-766	Internet of Things for Industrial Applications	3(3-0)
SPECIALIZATION IN ARTIFICIAL INTELLIGENCE		
CAI-757	Pattern Recognition	3(3-0)
CAI-758	Decision Support Systems	3(3-0)
CAI-761	Machine Learning	3(3-0)
CAI-762	Neural Networks	3(3-0)
CAI-764	Computer Vision	3(3-0)
CAI-765	Data Mining	3(3-0)
CAI-767	Advanced Topics in Artificial Intelligence	3(3-0)
CAI-769	Multimedia Databases	3(3-0)
CAI-770	Advanced Computer Graphics	3(3-0)
CAI-775	Advanced Data Mining	3(3-0)

SCHEME OF STUDY DOCTOR OF PHILOSOPHY IN COMPUTER SCIENCES

Course Code	Course Title	Credit Hours
CSC-800	Advanced Research Methodology	3(3-0)
STT-813	Advanced Statistical Methods for Computing	3(3-0)
CSC-799	Research Thesis	50(0-100)
CSC-819	Seminar-I	1(1-0)
CSC-820	Seminar-II	1(1-0)

SPECIALIZATION IN SOFTWARE ENGINEERING		
CSE-726	Advanced Software Engineering	3(3-0)
CSE-732	Object Oriented Software Engineering	3(3-0)
CSE-734	Formal Software Specification and Development	3(3-0)
CSE-736	Software Quality Assurance	3(3-0)
CSE-738	Software Requirements Engineering	3(3-0)
CSE-739	Software Engineering Processes	3(3-0)
CSE-742	Software Project Management	3(3-0)
CSE-743	Trends in Software Engineering	3(3-0)
CSE-744	Software Analysis and Design Patterns	3(3-0)
CSE-746	Topics in Object Oriented Analysis and Design	3(3-0)
CSE-748	Software Architecture	3(3-0)
CSE-808	Software Risk Management	3(3-0)
CSE-809	Software Measurements & Metrics	3(3-0)
CSE-810	Software Configuration Management	3(3-0)
CSE-811	Component Based Software Engineering	3(3-0)
CSE-812	Special Topics in Software Engineering-I	3(3-0)
CSE-813	Special Topics in Software Engineering-II	3(3-0)
CSE-820	Advanced Topics in Software Engineering	3(3-0)
CSE-821	Object Oriented Modeling	3(3-0)
CSE-822	Model and Specification-Based Software Testing	3(3-0)
CSE-823	Software Fault Tolerance	3(3-0)
SPECIALIZATION IN NETWORKS		
CSN-750	Advanced Computer Networks	3(3-0)
CSN-751	Network Security	3(3-0)
CSN-752	Wireless Networks	3(3-0)
CSN-755	Integrated Services Over Packet Networks	3(3-0)

CSN-756	Network Transfer Protocol	3(3-0)
CSN-759	Network Management	3(3-0)
CSN-760	Networked Multimedia Services	3(3-0)
CSN-766	Internet of Things for Industrial Applications	3(3-0)
CSN-803	Cloud Computing Security	3(3-0)
CSN-804	Network Switching and Routing	3(3-0)
CSN-805	Wireless Sensor Networks	3(3-0)
CSN-806	Advanced Simulation and Modeling	3(3-0)
CSN-814	Special Topics in Networks-I	3(3-0)
CSN-815	Special Topics in Networks-II	3(3-0)
CSN-831	Network Performance Evaluation	3(3-0)
CSN-832	Network Programming	3(3-0)
SPECIALIZATION IN ARTIFICIAL INTELLIGENCE		
CAI-757	Pattern Recognition	3(3-0)
CAI-758	Decision Support System	3(3-0)
CAI-761	Machine Learning	3(3-0)
CAI-762	Neural Networks	3(3-0)
CAI-764	Computer Vision	3(3-0)
CAI-765	Data Mining	3(3-0)
CAI-767	Advanced Topics in Artificial Intelligence	3(3-0)
CAI-769	Multimedia Databases	3(3-0)
CAI-770	Advanced Computer Graphics	3(3-0)
CAI-775	Advanced Data Mining	3(3-0)
CAI-801	Semantic Web	3(3-0)
CAI-802	Information Retrieval	3(3-0)
CAI-816	Special Topics in Artificial Intelligence-I	3(3-0)
CAI-817	Special Topics in Artificial Intelligence-II	3(3-0)

CAI-841	Advanced Topics in AI Programming	3(3-0)
CAI-842	Design of Intelligent Systems	3(3-0)
CAI-843	Digital Image Processing	3(3-0)
CAI-844	Multi Agent Systems	3(3-0)
SPECIALIZATION IN DATABASE SYSTEMS		
CSD-807	Big Data Analysis	3(3-0)
CSD-876	Advanced DBMS	3(3-0)
CSD-877	Data Warehousing	3(3-0)
CSD-878	Object Oriented Databases	3(3-0)
CSD-879	Web-Based DBMS	3(3-0)
CSD-880	Topics in DBMS	3(3-0)

UNIVERSITY INSTITUTE OF BIOCHEMISTRY AND BIOTECHNOLOGY



Director of the Institute

Prof. Dr. Muhammad Javaid Asad

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 Department of Biochemistry was up-graded to the University Institute of Biochemistry and Biotechnology (UIBB) in 2011. 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.

The faculty of UIBB is highly qualified and competent with doctorate and post-doctoral experience from reputable National and International Universities/Institutes with research specialization in diverse fields like, Biochemistry, Molecular Biology, Plant Biochemistry, Plant Biotechnology, Nanotechnology, Animal Biotechnology, Industrial Biotechnology, Fermentation Technology, Enzymology, Nutritional Biochemistry, Natural Products Chemistry, Human Molecular Genetics, Clinical Biochemistry, Cancer Genetics, Epigenetics, Biofuels, Protein Chemistry, Bioinformatics, etc. All faculty members have track records of publications in impact factor journals, won research grants from various funding agencies and are HEC approved PhD supervisors. The faculty of UIBB has successfully maintained active scientific collaborations with highly reputed national and international universities and research institutes.

The degree programs offered by UIBB are designed to provide necessary skills and knowledge in applying biochemical and molecular approaches for the solution of problems related to Health, Agriculture, Industry, and Biotechnology. The curriculum for different degree programs offered is designed based on international standards with highly competitive and advanced theoretical and practical courses. The curriculum is regularly updated keeping in view the recent advances in the relevant fields. In addition, the institute also offers compulsory courses to other departments and faculties of the university. Along with regular academic activities, the institute has a rich tradition of conducting scientific conferences, workshops, symposia, and seminars to train young scientists with modern techniques in Biochemistry, Molecular Biology, and Biotechnology.



Faculty of the Institute

Director

Dr. Muhammad Javaid Asad

Professor

Dr. Abida Raza

Associate Professors

Dr. Muhammad Sheeraz Ahmad

Dr. Feroza Hamid Wattoo

Dr. Sadia Saeed

Assistant Professors

Dr. Pakeeza Arzoo Shaiq

Dr. Tayyaba Zainab

Dr. Bilal Muhammad Khan

Dr. Uzma Abdullah

Lecturers

Ms. Hina Ali

Ms. Saima Amin

Degree Programs Offered at UIBB

BS(Biochemistry)/(Biotechnology)/(Microbiology)/(Aesthetics and Cosmetology)

Minimum Requirements for the Award of Degree

- The duration of the Course for completing the course for the degree of Bachelor of Sciences (Biochemistry, Biotechnology, Aesthetics and Cosmetology and Microbiology) shall normally be eight semesters and maximum 12 semesters.
- The minimum course requirement is 130 credit hours.
- A full time student shall be required to take courses not less than 15 credits hours and maximum 18 credit hours in a semester.

Admission Requirement:-

- F.Sc. (Pre-Medical) or equivalent with at least 45% marks.
- Must passed university entrance test.

Admission Authority:-

The Director of the Institute shall be responsible for admission to the programme.

AGE: A candidate must not be more than 25 years of age on 1st date of semester of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

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

Academic Standing:**Grade Point Average**

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

BS (Medical Lab Technology)**Minimum Requirements for the Award of Degree**

- The duration of the Course for completing the course for the degree of Bachelor of Sciences (Medical Lab technology) shall normally be eight semesters and maximum 12 semesters.
- The minimum course requirement is 130 credit hours.
- A full time student shall be required to take courses not less than 15 credits hours and maximum 18 credit hours in a semester.

Admission Requirement:-

- F.Sc. (Pre-Medical) or equivalent with at least 50% marks.
- Must passed university entrance test.

Admission Authority:-

The Director of the Institute shall be responsible for admission to the programme.

AGE: A candidate must not be more than 25 years of age on 1st date of semester of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

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

Academic Standing:**Grade Point Average**

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

BS(Clinical Psychology)**Minimum Requirements for the Award of Degree**

- The duration of the Course for completing the course for the degree of Bachelor of Sciences (Clinical Psychology) shall normally be eight semesters and maximum 12 semesters.
- The minimum course requirement is 130 credit hours.
- A full time student shall be required to take courses not less than 15 credits hours and maximum 18 credit hours in a semester.

Admission Requirement:-

- F.Sc. (Pre-Medical) or equivalent with at least 50% marks.
- Must passed university entrance test.

Admission Authority:-

The Director of the Institute shall be responsible for admission to the programme.

AGE: A candidate must not be more than 25 years of age on 1st date of semester of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

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

Academic Standing:

Grade Point Average

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

Master of Philosophy (M.Phil) Biochemistry, Biotechnology :-

In Biochemistry and Biotechnology with a minimum of 4 and maximum of 8 semesters.

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.

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.

Semester	CGPA
1st	1.50
2nd	2.00
3rd	2.25
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/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 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. Meet all the requirements mentioned in these regulations.
- ii. 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.
- iii. Must have passed University Entrance Test with 70% marks.

ACADEMIC STANDING:

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 | 3.003 |
-
- i. To remain on the rolls of the University a student shall be required to maintain a minimum CGPA of 3.00.
 - ii. 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.
 - iii. For admission to Ph.D programmes in Biochemistry, Biotechnology minimum criteria will be followed as per HEC policy.

SCHEME OF STUDY BACHELOR OF SCIENCE (BIOCHEMISTRY)

Semester-I		
Course Code	Course Title	Credit Hours
BCH-301	Introductory Biochemistry	3(2-2)
BCH-303	Cell Biology	3(2-2)
CHEM-401	Organic Chemistry	3(2-2)
ENG-301	Functional English	3(3-0)
QR-401	Quantitative Reasoning-I	3(3-0)
TOQ-301	Translation of Quran (Audit Course)	1(1-0)
	Total	16

Semester-II		
Course Code	Course Title	Credit Hours
BCH-302	Molecular Biology	3(2-2)
BCH-304	Principles of Genetics	3(3-0)
BCH-306	Fundamentals of Enzymology	3(2-2)
SSH-301	Civic and Community Engagement	2(2-0)
CSC-100	Applications of Information and Communication Technologies (ICT)	3(2-1)
IS-302	Islamic Studies and Ethics	2(2-0)
TOQ-401	Translation of Quran (Audit Course)	1(1-0)
	Total	16

Semester-III		
Course Code	Course Title	Credit Hours
BCH-401	Nucleic Acids	2(2-0)
BCH-403	Amino Acids and Proteins	3(2-2)
BCH-405	Bioinformatics	3(2-2)
QR-402	Quantitative Reasoning-II	3(3-0)
SSH-302	Ideology and Constitution of Pakistan	2(2-0)
SOS-301	Moral Foundation of Education	2(2-0)
TOQ-501	Translation of Quran (Audit Course)	1(1-0)
	Total	15

Semester-IV		
Course Code	Course Title	Credit Hours
BCH-402	Carbohydrates	3(2-2)
BCH-404	Lipids	3(2-2)
BCH-406	Integrated Metabolism	3(3-0)
SOC-301	Introduction to Sociology	2(2-0)
ENG-302	Expository Writing	3(3-0)
SSH-304	Entrepreneurship	2(2-0)
TOQ-601	Translation of Quran (Audit Course)	1(1-0)
	Total	16

Semester-V		
Course Code	Course Title	Credit Hours
BCH-501	Genetic Engineering	3(2-2)
BCH-503	Protein Chemistry	2(2-0)
BCH-505	Biochemical Techniques	3(1-4)
BCH-507	Tissue and Cell Culture	3(2-2)
MIC-311	General Microbiology	3(2-2)
CHEM-301	Inorganic Chemistry	3(2-2)
	Total	17

Semester-VI		
Course Code	Course Title	Credit Hours
BCH-502	Cellular Signaling	3(3-0)
BCH-504	Biotechnology	3(2-2)
BCH-506	Introduction to Bioenergetics	2(2-0)
BCH-508	Plant Biochemistry	3(2-2)
CHEM-501	Physical Chemistry	3(2-2)
ZOOL-313	Human Physiology	3(2-2)
	Total	17

Semester-VII		
Course Code	Course Title	Credit Hours
BCH-601	Industrial Biochemistry	3(2-2)
BCH-603	Good Laboratory Practices and Quality Control	3(3-0)
BCH-605	Biomembranes	2(2-0)
BCH-607	Nutritional Biochemistry	3(2-2)
BCH-609	Immunology and Immunochemistry	3(3-0)
BCH-611	Current Trends in Biochemistry	3(3-0)
BCH-620	Seminar	1(1-0)
	Total	18

Semester-VIII		
Course Code	Course Title	Credit Hours
BCH-299	Internship/Field Experience	3(0-6)
BCH-399	Capstone Project	3(0-6)
	Total	6

SCHEME OF STUDY BACHELOR OF SCIENCE (MICROBIOLOGY)

Semester-I		
Course Code	Course Title	Credit Hours
MIC-301	General Microbiology-I	3(3-0)

MIC-303	Cell Biology	3(2-2)
CHEM-401	Organic Chemistry	3(2-2)
ENG-301	Functional English	3(3-0)
QR-401	Quantitative Reasoning-I	3(3-0)
TOQ-301	Translation of Quran (Audit Course)	1(1-0)
	Total	15

Semester-II		
Course Code	Course Title	Credit Hours
MIC-302	General Microbiology-II	3(2-2)
MIC-304	Molecular Biology	3(2-2)
BCH-311	Biochemistry-I	3(2-2)
SSH-301	Civic and Community Engagement	2(2-0)
CSC-100	Applications of Information and Communication Technologies (ICT)	3(2-1)
IS-302	Islamic Studies and Ethics	2(2-0)
TOQ-401	Translation of Quran (Audit Course)	1(1-0)
	Total	16

Semester-III		
Course Code	Course Title	Credit Hours
MIC-401	General Microbiology-III	3(2-2)
MIC-403	Computational Microbiology	3(2-2)

MIC-405	Mycology	3(2-2)
QR-402	Quantitative Reasoning-II	3(3-0)
SSH-302	Ideology and Constitution of Pakistan	2(2-0)
SOS-301	Moral Foundation of Education	2(2-0)
TOQ-501	Translation of Quran (Audit Course)	1(1-0)
	Total	16

Semester-IV		
Course Code	Course Title	Credit Hours
MIC-402	Microbial Anatomy and Physiology	3(2-2)
MIC-404	Microbial Taxonomy	3(2-2)
MIC-406	Biological Safety and Risk Management	3(3-0)
SOC-301	Introduction to Sociology	2(2-0)
ENG-302	Expository Writing	3(3-0)
SSH-304	Entrepreneurship	2(2-0)
TOQ-601	Translation of Quran (Audit Course)	1(1-0)
	Total	16

Semester-V		
Course Code	Course Title	Credit Hours
MIC-501	Metabolic Engineering	3(3-0)
MIC-503	Virology	3(2-2)
MIC-505	Fresh Water Microbiology	3(2-2)
MIC-507	Food Preservation Technology	3(3-0)
MIC-509	Microbial Genetics	3(2-2)
BCH-312	Biochemistry-II	3(3-0)
	Total	17

Semester-VI		
Course Code	Course Title	Credit Hours
MIC-502	Biotechnology and Synthetic Biology	3(2-2)
MIC-504	Soil Microbiology	3(2-2)
MIC-506	Systems Microbiology	3(3-0)
MIC-508	Microbiomes and Health	2(2-0)
MIC-510	Molecular Disease Diagnostics	3(3-0)
MIC-512	Medical Microbiology	3(3-0)
	Total	17

Semester-VII		
Course Code	Course Title	Credit Hours
MIC-601	Epidemiology of Infectious Diseases	3(3-0)
BCH-603	Good Laboratory Practices and Quality Control	3(3-0)
MIC-603	Environmental Microbiology	3(3-0)
MIC-605	Current Trends in Microbiology	3(3-0)
BCH-609	Immunology and Immunochemistry	1(1-0)
MIC-620	Seminar	3(3-0)
	Total	16

Semester-VIII		
Course Code	Course Title	Credit Hours
MIC-299	Internship/Field Experience	3(0-6)
MIC-399	Capstone Project	3(0-6)
	Total	6

SCHEME OF STUDY BACHELOR OF SCIENCE (BIOTECHNOLOGY)

Semester-I		
Course Code	Course Title	Credit Hours
BIOT-301	Introduction to Biotechnology	3(3-0)
BIOT-303	Cell Biology	3(2-2)
CHEM-401	Organic Chemistry	3(2-2)
ENG-301	Functional English	3(3-0)
QR-401	Quantitative Reasoning-I	3(3-0)
TOQ-301	Translation of Quran (Audit Course)	1(1-0)
	Total	15

Semester-II		
Course Code	Course Title	Credit Hours
BIOT-302	Molecular Biology	3(2-2)
BIOT-304	Classical Genetics	3(3-0)
BCH-311	Biochemistry-I	3(2-2)
SSH-301	Civic and Community Engagement	2(2-0)
CSC-100	Applications of Information and Communication Technologies (ICT)	3(2-1)
IS-302	Islamic Studies and Ethics	2(2-0)
TOQ-401	Translation of Quran (Audit Course)	1(1-0)
	Total	16

Semester-III		
Course Code	Course Title	Credit Hours
BIOT-401	Bioinformatics	3(1-4)
BIOT-403	Biodiversity and Conservation Biology	3(3-0)
BIOT-405	Genetic Engineering	3(2-2)
QR-402	Quantitative Reasoning-II	3(3-0)
SSH-302	Ideology and Constitution of Pakistan	2(2-0)
SOS-301	Moral Foundation of Education	2(2-0)
TOQ-501	Translation of Quran (Audit Course)	1(1-0)
	Total	16

Semester-IV		
Course Code	Course Title	Credit Hours
BIOT-402	Molecular Ecology and Evolution	3(3-0)
BIOT-404	Analytical Chemistry and Instrumentation	3(2-2)
BIOT-406	Principles of Biochemical Engineering	3(2-2)
SOC-301	Introduction to Sociology	2(2-0)
ENG-302	Expository Writing	3(3-0)
SSH-304	Entrepreneurship	2(2-0)
TOQ-601	Translation of Quran (Audit Course)	1(1-0)
	Total	16

Semester-V		
Course Code	Course Title	Credit Hours
BIOT-501	Cell and Tissue Culture	3(2-2)
BIOT-503	Genetic Resources and Conservation	3(3-0)
BIOT-505	Genomics and Proteomics	3(3-0)
BCH-312	Biochemistry-II	3(2-2)
MIC-311	General Microbiology	3(2-2)
	Total	15

Semester-VI		
Course Code	Course Title	Credit Hours
BIOT-502	Health Biotechnology	3(3-0)
BIOT-504	Industrial Biotechnology	3(3-0)
BIOT-506	Agriculture Biotechnology	3(3-0)
BIOT-508	Environmental Biotechnology	3(3-0)
BIOT-510	Food Biotechnology	3(3-0)
CHEM-301	Inorganic Chemistry	3(2-2)
	Total	18

Semester-VII		
Course Code	Course Title	Credit Hours
BIOT-601	Biosafety and Bioethics	2(2-0)
BIOT-603	Pharmaceutical Biotechnology	3(3-0)
BIOT-605	Animal Biotechnology	3(3-0)
BIOT-607	Virology and Immunology	3(3-0)
BIOT-609	Microbial Biotechnology	3(3-0)
BIOT-611	Current Trends in Biotechnology	3(3-0)
BIOT-620	Seminar	1(1-0)
	Total	18

Semester-VIII		
Course Code	Course Title	Credit Hours
BIOT-299	Internship/Field Experience	3(0-6)
BIOT-399	Capstone Project	3(0-6)
	Total	6

SCHEME OF STUDY BACHELOR OF SCIENCE (MEDICAL LABORATORY TECHNOLOGY)

Semester-I		
Course Code	Course Title	Credit Hours
MLT-301	Biochemistry-I	3(2-2)
MLT-303	Phlebotomy	3(2-2)
MIC-311	General Microbiology	3(2-2)
ZOOL-313	Human Physiology	3(2-2)
ENG-301	Functional English	3(3-0)
QR-401	Quantitative Reasoning-I	3(3-0)
TOQ-301	Translation of Quran (Audit Course)	1(1-0)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
MLT-302	Biochemistry-II	3(2-2)
MLT-304	Clinical Hematology	2(2-0)
MLT-306	Anatomy and Embryology	3(2-2)
SSH-301	Civic and Community Engagement	2(2-0)
CSC-100	Applications of Information and Communication Technologies (ICT)	3(2-1)
IS-302	Islamic Studies and Ethics	2(2-0)
TOQ-401	Translation of Quran (Audit Course)	1(1-0)
	Total	15

Semester-III		
Course Code	Course Title	Credit Hours
MLT-401	Clinical Biochemistry	3(2-2)
MLT-403	Biosecurity and Risk Management	2(2-0)
MLT-405	Laboratory Instrumentation and Techniques	2(2-0)
BCH-302	Molecular Biology	3(2-2)
QR-402	Quantitative Reasoning-II	3(3-0)
SSH-302	Ideology and Constitution of Pakistan	2(2-0)
SOS-301	Moral Foundation of Education	2(2-0)
TOQ-501	Translation of Quran (Audit Course)	1(1-0)
	Total	17

Semester-IV		
Course Code	Course Title	Credit Hours
MLT-402	Endocrinology	2(2-0)
MLT-404	Clinical Pathology	2(2-0)
MLT-406	Public Health and Epidemiology	3(3-0)
MLT-408	Quality Assurance and Laboratory Management Tools	3(2-2)
SOC-301	Introduction to Sociology	2(2-0)
ENG-302	Expository Writing	3(3-0)
SSH-304	Entrepreneurship	2(2-0)

TOQ-601	Translation of Quran (Audit Course)	1(1-0)
	Total	17

Semester-V		
Course Code	Course Title	Credit Hours
MLT-501	Medical Genetics	2(2-0)
MLT-503	Blood Banking and Transfusion Medicine	3(2-2)
MLT-505	Clinical Parasitology and Bacteriology	3(3-0)
MLT-507	Biosafety and Bioethics	2(2-0)
MLT-509	Research Planning and Report Writing	2(1-2)
BCH-405	Bioinformatics	3(2-2)
BIOT-301	Introduction to Biotechnology	3(2-2)
	Total	18

Semester-VI		
Course Code	Course Title	Credit Hours
MLT-502	Introduction to Forensic Sciences	3(2-2)
MLT-504	Molecular Diagnostic Techniques	3(3-0)
MLT-506	Cytology and Histology Techniques	2(2-0)
MLT-508	Fundamentals of Infection Control	2(2-0)
MLT-510	Clinical Virology and Mycology	2(2-0)

MLT-512	General Pharmacology	3(3-0)
MLT-514	Immunology and Serology	3(2-2)
	Total	18

Semester-VII		
Course Code	Course Title	Credit Hours
MLT-601	Clinical Rotation A (Histopathology and Hematology)	3(0-6)
MLT-603	Clinical Rotation B (Clinical Chemistry)	3(0-6)
MLT-605	Clinical Rotation C (Microbiology)	3(0-6)
MLT-607	Clinical Rotation D (Molecular Biology)	3(0-6)
MLT-609	Clinical Lab Rotation E (Blood Bank)	2(0-4)
MLT-620	Seminar	1(1-0)
	Total	15

Semester-VIII		
Course Code	Course Title	Credit Hours
MLT-299	Internship/Field Experience	3(0-6)
MLT-399	Capstone Project	3(0-6)
	Total	6

SCHEME OF STUDY BACHELOR OF SCIENCE (AESTHETIC & COSMETOLOGY)

Semester-I		
Course Code	Course Title	Credit Hours
ACS-301	Anatomy	3(2-2)
ACS-303	Physiology	3(3-0)
BCH-311	Biochemistry-I	3(2-2)
CHEM-401	Organic Chemistry	3(2-2)
ENG-301	Functional English	3(3-0)
QR-401	Quantitative Reasoning-I	3(3-0)
ACS-301	Anatomy	3(2-2)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
ACS-302	Pathology	3(2-2)
ACS-304	Anatomy and Physiology of Skin	3(2-2)
ACS-306	Physical Education	2(2-0)
BCH-312	Biochemistry-II	3(2-2)
SSH-301	Civic and Community Engagement	2(2-0)
CSC-100	Applications of Information and Communication Technologies	3(2-2)
IS-302	Islamic Studies and Ethics	2(2-0)
FQ-301	Fehme Quran -I	3(2-2)
	Total	18

Semester-III		
Course Code	Course Title	Credit Hours
ACS-401	Fundamentals of Skincare	3(2-2)
ACS-403	Nutritional Sciences	3(2-2)
MLT-501	Medical Genetics	2(2-0)
QR-402	Quantitative Reasoning-II	3(3-0)
SSH-302	Ideology and Constitution of Pakistan	2(2-0)
SOS-301	Moral Foundation of Education	2(2-0)
SSH-304	Entrepreneurship	2(2-0)
	Total	17

Semester-IV		
Course Code	Course Title	Credit Hours
ACS-402	Behavioral Sciences	3(2-2)
ACS-404	Cosmetic Sciences	3(2-2)
ACS-406	Skin Diseases-I	3(3-0)
SOC-301	Introduction to Sociology	2(2-0)
ENG-302	Expository Writing	3(3-0)
SOS-302	Seerat Studies	2(2-0)
FQ-302	Fehme Quran-II	1(1-0)
	Total	16

Semester-V		
Course Code	Course Title	Credit Hours
ACS-501	Basic Instrumentation of Aesthetics	3(2-2)
ACS-503	Clinical Therapeutics	3(2-2)
ACS-505	Clinical Pharmacology	3(3-0)
ACS-507	Medical Ethics	2(2-0)
ACS-509	Skin Disease-II	3(2-2)
BIOT-301	Introduction to Biotechnology	3(3-0)
	Total	17

Semester-VI		
Course Code	Course Title	Credit Hours
ACS-502	Research planning and report writing	3(1-4)
ACS-504	Electronic Therapies	3(2-2)
ACS-506	Perfumery and Aroma Therapy	3(2-2)
ACS-508	Skin Diseases-III	3(3-0)
ACS-510	Supervised Cosmetic Procedures-I	3(1-4)
ACS-512	Health Economics & Community Dermatology	3(3-0)
	Total	17

Semester-VII		
Course Code	Course Title	Credit Hours
ACS-601	Biomedical Waste Management and Infection Control	3(2-2)
ACS-603	Photobiology and Phototherapy	2(2-0)
ACS-605	Laser Treatments in Aesthetics	3(2-2)
ACS-607	Skin Diseases-IV	3(2-2)
ACS-609	Supervised Cosmetic Procedures-II	3(1-4)
ACS-611	Patient Care and Consultation	3(2-2)
	Total	17

Semester-VIII		
Course Code	Course Title	Credit Hours
ACS-602	Introduction to Public Health and Safety in Aesthetic Procedures	3(3-0)
ACS-604	Regulation and Legislation of Cosmetic Products	2(2-0)
ACS-299	Clinical Rotations/Internship	3(0-6)
ACS-399	Capstone Project	3(0-6)
	Total	11

SCHEME OF STUDY BACHELOR OF SCIENCE (CLINICAL PSYCHOLOGY)

Semester-I		
Course Code	Course Title	Credit Hours
CPY-301	Introduction to Psychology	3(2-2)
CPY-303	Statistics for Psychology	3(2-2)
BCH-311	Biochemistry I	3(2-2)
ENG-301	Functional English	3(3-0)
QR-401	Quantitative Reasoning-I	3(3-0)
SOS-302	Seerat Studies	2(2-0)
TOQ-301	Translation of Quran (Audit Course)	1(1-0)
	Total	17

Semester-II		
Course Code	Course Title	Credit Hours
CPY-302	History and Schools of Psychology	3(3-0)
CPY-304	Experimental Psychology	3(2-2)
BCH-312	Biochemistry II	3(3-0)
SSH-301	Civic and Community Engagement	2(2-0)
SSH-303	Pakistan Studies	2(2-0)
CSC-100	Applications of Information and Communication Technologies (ICT)	3(2-2)
IS-302	Islamic Studies and Ethics	2(2-0)
FQ-302	Fehme Quran	1(0-1)
	Total	18

Semester-III		
Course Code	Course Title	Credit Hours
CPY-401	Introduction to Social Psychology	2(2-0)
CPY-403	Personality Theories	3(3-0)
CPY-405	Developmental Psychology	3(3-0)
CPY-407	Clinical Biochemistry	3(2-2)
QR-402	Quantitative Reasoning-II	3(3-0)
SSH-302	Ideology and Constitution of Pakistan	2(2-0)
SOS-301	Moral Foundation of Education	2(2-0)
TOQ-501	Translation of Quran	1(1-0)
	Total	18

Semester-IV		
Course Code	Course Title	Credit Hours
CPY-402	Behavioral Neuroscience	3(3-0)
CPY-404	Clinical Psychology	3(3-0)
CPY-406	Mental Health & Psychopathology - I	3(3-0)
CPY-408	Cognitive Psychology	2(2-0)
SOC-301	Introduction to Sociology	2(2-0)
ENG-302	Expository Writing	3(3-0)
SSH-304	Entrepreneurship	2(2-0)

SOS-302	Seerat Studies (only Fall 2025)	2(2-0)
TOQ-601	Translation of Quran (Audit Course)	1(1-0)
	Total	18/20

Semester-V

Course Code	Course Title	Credit Hours
CPY-501	Psychological Testing - I	3(2-2)
CPY-503	Research Methods	3(2-2)
CPY-505	Mental Health & Psychopathology - II	3(3-0)
CPY-507	Positive Psychology	3(3-0)
CPY-509	Nutritional Neurosciences	3(2-2)
MIC-311	General Microbiology	3(2-2)
	Total	18

Semester-VI

Course Code	Course Title	Credit Hours
CPY-502	Psychological Testing - II	3(2-2)
CPY-504	Neurogenetics	3(3-0)
CPY-506	Counselling Psychology	3(2-2)
CPY-508	Health Psychology	3(3-0)
CPY-510	Forensic Psychology	3(3-0)

ZOOL-313	Human Physiology	3(2-2)
	Total	18

Semester-VII		
Course Code	Course Title	Credit Hours
CPY-601	Ethics in Clinical Psychology	2(2-0)
CPY-603	Child Psychology	3(3-0)
CPY-605	Psycho pharmacology	3(3-0)
CPY-607	Psychotherapy	3(2-2)
CPY-611	Cross-Cultural Psychology	3(3-0)
CPY-299	Internship	3(0-6)
	Total	17

Semester-VIII		
Course Code	Course Title	Credit Hours
CPY-399	Capstone Project	3(0-6)
CPY-XXX	Elective-I	3(3-0)
CPY-XXX	Elective-II	3(3-0)
CPY-XXX	Elective-III	3(3-0)
CPY-620	Seminar	1(1-0)
	Total	13

SCHEME OF STUDIES FOR M.PHIL/PH.D BIOCHEMISTRY

Course Code	Course Title	Credit Hours
BCH-701	Biochemistry	3(2-2)
BCH-702	Bio-informatics	3(2-2)
BCH-703	Metabolism	3(2-2)
BCH-704	Molecular Biology	3(2-2)
BCH-705	Enzymology	3(2-2)
BCH-706	Tissue and Cell Culture	3(2-2)
BCH-707	Cellular Signaling Mechanism	3(3-0)
BCH-708	Human Physiology	3(2-2)
BCH-709	Biological Methods and Instrumentation	2(0-4)
BCH-710	Protein Chemistry	2(2-0)
BCH-711	Biomembranes	2(2-0)
BCH-712	Genetic Engineering	3(2-2)
BCH-713	Biotechnology	3(2-2)
BCH-714	Clinical Biochemistry	3(1-4)
BCH-715	Medical Microbiology	3(2-2)
BCH-716	Nutrition and Dietetics	3(2-2)
BCH-718	Plant Biochemistry	3(3-0)
BCH-719	Special Problem	1(1-0)
BCH-720	Seminar-I	1(1-0)
BCH-720	Seminar-II	1(1-0)
BCH-721	Environmental Biochemistry	3(2-2)
BCH-722	Recent Topics in Molecular Biology	3(3-0)
BCH-723	Current Topics in Microbiology	3(3-0)

BCH-724	Fundamentals of Biotechnology	4(3-2)
BCH-725	Trends in Immunology	3(3-0)
BCH-726	Advanced Biochemistry	3(3-0)
BCH-727	General Microbiology	3(2-2)
BCH-728	Immunology and Immunochemistry	3(2-2)
BCH-731	Advances in Biochemistry	3(3-0)
BCH-732	Medical Nutrition Therapy	3(3-0)
BCH-733	Plant Molecular Physiology	3(3-0)
BCH-734	Numerical Problems in Biochemistry	3(3-0)
BCH-735	Principles of Advanced Biochemical Techniques	3(3-0)
BCH-736	Proteomics	3(3-0)
BCH-737	Cellular and Molecular Immunology	3(3-0)
BCH-751	Advances in Biotechnology	3(3-0)
BCH-799	Thesis	10(0-20)
BCH-799	Thesis	50(0-100)

SCHEME OF STUDIES FOR M.PHIL/PH.D BIOTECHNOLOGY

Course Code	Course Title	Credit Hours
BIOT-701	Applications of Biotechnology	3(3-0)
BIOT-702	Advanced Recombinant DNA Technology	2(2-0)
BIOT-703	Techniques in Biotechnology	3(2-2)
BIOT-704	Cell and Tissue Culture	3(2-2)
BIOT-705	Advances in Plant Biotechnology	3(3-0)
BIOT-706	Health Biotechnology	3(3-0)
BIOT-707	Laboratory Practices and Bioethics	2(2-0)

BIOT-708	Bioinformatics	3(1-4)
BIOT-715	Fundamentals of Pharmacology	3(3-0)
BIOT-716	Molecular Bases of Human Genetic Diseases	3(3-0)
BIOT-719	Special Problem	1(1-0)
BIOT-720	Seminar - I	1(1-0)
BIOT-720	Seminar - II	1(1-0)
STAT-702	Biostatistical Analysis	3(3-0)
BIOT-799	Research & Thesis	10(0-20)
BIOT-799	Research & Thesis	50(0-100)

INSTITUTE OF FOOD AND NUTRITIONAL SCIENCES

Director of the Institute Prof. Dr. Asif Ahmad



The Institute of Food and Nutritional Sciences plays an important role in education and research in the fields of Food Science and Technology, Human Nutrition and Dietetics, and Food Safety & Quality Management. The institute provides students with the knowledge, practical skills, and professional training required to meet the changing needs of the food and health sectors. It focuses on the production of safe, nutritious, and high-quality food products and prepares students to improve nutritional health, prevent diet-related diseases, and promote healthy lifestyles in the community.

The institute has a highly qualified faculty consisting of PhD and post-doctoral scholars from recognized national and international institutions. Faculty members are actively involved in teaching and research and have expertise in different areas of food and nutrition sciences. They have published research papers in reputed journals, contributed book chapters, and secured research funding from national and international organizations. Their academic and research experience provides students with a strong learning and research environment.

The institute offers undergraduate and postgraduate degree programs in Food Science and Technology, Human Nutrition and Dietetics, and Food Safety and Quality Management. These programs provide students with both theoretical knowledge and practical training. The courses are regularly updated according to HEC guidelines and recent developments in the food and health sectors. The institute aims to prepare graduates who can contribute effectively to the food, nutrition, and health sectors.



Faculty of the Institute

Director	Dr. Asif Ahmad
Associate Professors	Dr. Asma Sohail Dr. Muhammad Abid
Assistant Professors	Dr. Rai Muhammad Amir Dr. Kashif Sarfraz Abbasi Dr. Marina Sajid
Lecturers	Ms. Asia latif Dr. Muhammad Tauseef Azam Mr. Muhammad Adeel Javed Ms. Sowaba Muneer

Degree Programs offered at IFNS

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

Minimum Requirements for the Award of Degree:

- The duration of the Course for completing the course for the degree of Bachelor of Sciences (Honors) Human Nutrition and Dietetics shall normally be eight semesters and maximum 12 semesters.
- The minimum course requirement is 130 credit hours.
- A full time student shall be required to take courses not less than 15 credits hours and maximum 18 credit hours in a semester.

Admission Requirement:-

- HSSC (Pre-Medical) or A-level (equivalent to pre- medical) having an equivalence or any other foreign equivalent qualification duly verified by IBCC having minimum 50 % marks.
- F. Sc. (Home Economics) major in Food and Nutrition along with Matriculation (Science with Biology) with at least 50% marks
- Must passed university entrance test.

Admission Authority:-

The Director of the Institute shall be responsible for admission to the programme.

AGE: A candidate must not be more than 25 years of age on 1st date of semester of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

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

Academic Standing:

Grade Point Average

- a. Maximum grade point average 4.00
- b. Minimum grade point average for obtaining Degree (CGPA) 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.
- 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/she shall cease on the University roll.

B.Sc. (Hons.) Food Science & Technology/Food Safety & Quality Management

Minimum Requirements for the Award of Degree

- The duration of the Course for completing the course for the degree of Bachelor of Sciences (Honors) Food Science & Technology/ Food Safety & Quality Management shall normally be eight semesters and maximum 12 semesters.
- The minimum course requirement is 130 credit hours.
- A full time student shall be required to take courses not less than 15 credits hours and maximum 18 credit hours in a semester.

Admission Requirement:-

- F.Sc. (Pre-Medical/Pre-Engineering) or equivalent qualification with at least 50% marks F.Sc.(Pre-Agriculture with CGPA of at least 2.50/4.00 or Diploma in Food Science and Technology (3 Year) with at least 50% Marks.
- Must pass university entrance test.

Admission Authority:-

The Director of the Institute shall be responsible for admission to the programme.

AGE: A candidate must not be more than 25 years of age on 1st date of semester of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

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

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1st	0.75
2nd	1.00
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Explanation:

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- 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 (Hons.) Food Technology 2 Years (Morning)

REQUIRED QUALIFICATION

- B.Sc (Hons.) Agriculture (Food Technology)/B.Sc (Hons.) Food Science and Technology in the relevant subjects 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. B.Sc. Home Economics major in Food and Nutrition (4 years degree program) along with F.Sc. (Pre-Medical) or A-level (equivalent to Pre-Medical) or any other foreign equivalent qualification approved by IBCC having minimum 50 %marks 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.

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.

Semester	CGPA
1st	1.50
2nd	2.00
3rd	2.25
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/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 (Food Technology)

Admission to Course:

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

- M.Sc (Hons.) Food Technology with CGPA of at least 3.00/4.00 in the relevant discipline.
- The applications of the candidates must be accompanied with a comprehensive research proposal that he/ she intends to undertake along with consent letter from concerned supervisor with justification of resources. The candidates 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 points will be as follow:
- a. Maximum grade point average 4.00
Minimum grade point average for obtaining the degree 3.00
- i. To remain on the rolls of the University a student shall be required to maintain the minimum CGPA of 3.00.
- ii. 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 STUDY BACHELOR OF SCIENCE (HONORS) HUMAN NUTRITION & DIETETICS

Semester-I		
Course Code	Course Title	Credit Hours
ENG-301	Functional English	3(3-0)
SSH-301	Civic and Community Engagement	2(2-0)
SOS-301	Moral Foundation of Education	2(2-0)
BCH-310	Introductory Biochemistry	3(2-2)
HND-301	Fundamentals of Human Nutrition	3(3-0)
FST-303	Food Processing and Preservation	3(2-2)
FQ-301	Fehm-e-Quran	1(1-0)
SOS-302	Seerat Studies	1(1-0)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
ENG-302	Expository Writing	3(3-0)
SOC-301	Introduction to Sociology	2(2-0)
SSH-301	Ideology and constitution of Pakistan	2(2-0)
SSH-303	Pakistan Studies	2(2-0)
IS-302	Islamic Studies and Ethics	2(2-0)
IT-302	Introduction to Information and Communication Technologies	3(2-2)
HND-302	Human Anatomy	3(2 -2)
HND-304	Human Physiology-I	3(2-2)
FQ-302	Fehm-e-Quran-II	1(1-0)
	Total	21

Semester-III		
Course Code	Course Title	Credit Hours
QR-401	Quantitative Reasoning-1	3(3-0)
HND-401	Human Physiology - II	3(3-2)
HND-403	Micro and Macronutrients in Human Nutrition	3(3-0)
HND-405	Meal Planning and Management	3(2-2)
HND-407	Food Safety and Quality Management	3(3-0)
FST-407	Food Laws and Regulations	3(3-0)
	Total	18

Semester-IV		
Course Code	Course Title	Credit Hours
QR-402	Quantitative Reasoning-1I	3(2-2)
MGT-402	Entrepreneurship	2(2-0)
HND-402	General Pathology	3(2-2)
HND-404	Metabolism of Nutrients	2(2-0)
HND-406	Assessment of Nutritional Status	3(2-2)
HND-408	Nutritional Epidemiology and Public Health	3(3-0)
FST-302	Food Biotechnology	3(2-2)
	Total	19

Semester-V		
Course Code	Course Title	Credit Hours
HND-502	Dietetics-II	3(2-2)
HND-504	Diet Modelling and Counselling	3(2-2)
HND-506	Nutrition through Life Cycle	3(3-0)
HND-508	Global Food Issues	3(3-0)
HND-510	Infant and Young Child Feeding	3(2-2)
HND-512	Medical Nutrition Therapy	3(3-0)
	Total	18

Semester-VI		
Course Code	Course Title	Credit Hours
HND-502	Dietetics-II	3(2-2)
HND-504	Diet Modelling and Counselling	3(2-2)
HND-506	Nutrition through Life Cycle	3(3-0)
HND-508	Global Food Issues	3(3-0)
HND-510	Infant and Young Child Feeding	3(3-0)
HND-512	Medical Nutrition Therapy	3(3-0)
	Total	18

Semester-VII		
Course Code	Course Title	Credit Hours
HND-601	Nutritional Practices in Clinical Care	3(2-2)
HND-603	Nutrition Policies and Programs	3(3-0)
HND-605	Nutritional Deficiency Disorders	3(3-0)
HND-607	Sports Nutrition	3(2-2)
HND-609	Nutrient-Drug Interactions	2(2-0)
HND-611	Research Methods in Nutrition	3(3-0)
	Total	17

Semester-VIII		
Course Code	Course Title	Credit Hours
HND-299	Internship/Project	3(0-6)
HND-399	Capstone Project	3(0-6)
	Total	6

SCHEME OF STUDY BACHELOR OF SCIENCE (HONORS) FOOD SCIENCE AND TECHNOLOGY

Semester-I		
Course Code	Course Title	Credit Hours
ENG-301	Functional English	3(3-0)
SSH-301	Civic and Community Engagement	2(2-0)
SOS-301	Moral Foundation of Education	2(2-0)
BCH-310	Introductory Biochemistry	3(2-2)
MATH-301/ BIOL-301	Mathematics-1/ General Biology-1	3(3-0)/ 3(2-2)
FST-301	Introduction to Food Science and Technology	3(2-2)
FST-303	Food Processing and Preservation	3(2-2)
FQ-301	Fehm-e-Quran	1(1-0)
SOS-302	Seerat Studies	1(1-0)
	Total	21

Semester-II		
Course Code	Course Title	Credit Hours
ENG-302	Expository Writing	3(3-0)
SOC-301	Introduction to Sociology	2(2-0)
SSH-301	Ideology and constitution of Pakistan	2(2-0)
SSH-303	Pakistan Studies	2(2-0)
IS-302	Islamic Studies and Ethics	2(2-0)

MATH-302/ BIOL-302	Mathematics-II/ General Biology-II	3(3-0)/ 3(2-2)
FST-302	Food Biotechnology	3(2-2)
FST-304	Food Process Engineering I	3(2-2)
FQ-302	Fehm-e-Quran-II	1(1-0)
	Total	21

Semester-III		
Course Code	Course Title	Credit Hours
QR-401	Quantitative Reasoning-1	3(3-0)
FST-403	General Microbiology	3(2-2)
FST-405	Fruit and Vegetable Processing	3(2-2)
FST-407	Food Laws and Regulations	3(3-0)
FST-409	Food Product Development	3(3-0)
FT-501	Principles of Food Preservation	3(2-2)
HND-505	Functional Foods and Nutraceuticals	3(3-0)
	Total	21

Semester-IV		
Course Code	Course Title	Credit Hours
QR-402	Quantitative Reasoning-II	3(2-2)
MGT-402	Entrepreneurship	2(2-0)

IT-302	Introduction to Information and Communication Technologies	3(2-2)
FST-402	Milk and Meat Hygiene and Public Health	3(2-2)
FST-404	Fundamentals of Food Systems	3(3-0)
HND-508	Global Food Issues	3(3-0)
FT-510	Food Toxicology and Safety	3(3-0)
	Total	21

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)
	Total	15

Semester-VI		
Course Code	Course Title	Credit Hours
FST-502	Sugar Technology	3(2-2)
FST-504	Dairy Technology	3(2-2)
FST-506	Post Harvest Technology	3(2-2)
FST-508	Food Chemistry	3(3-0)

FST-510	Food Packaging	3(2-2)
FST-512	Confectionery and Snack Foods	3(2-2)
	Total	18

Semester-VII

Course Code	Course Title	Credit Hours
FST-601	Community Nutrition and Dietetics	3(2-2)
FST-603	Food Quality Management	2(2-0)
FST-605	Cereal Technology	3(2-2)
FST-607	Meat Technology	3(2-2)
FST-609	Food Plant Layout	2(2-0)
FST-611	Extrusion Technology	3(2-2)
FST-613	Unit Operations in Food Processing	3(3-0)
	Total	19

Semester-VIII

Course Code	Course Title	Credit Hours
FST-299	Internship/Project	3(0-6)
FST-399	Capstone Project	3(0-6)
	Total	6

SCHEME OF STUDY BACHELOR OF SCIENCE (HONORS) FOOD SAFETY AND QUALITY MANAGEMENT

Semester-I		
Course Code	Course Title	Credit Hours
ENG-301	Functional English	3(3-0)
SSH-301	Civic and Community Engagement	2(2-0)
SOS-301	Moral Foundation of Education	2(2-0)
MATH-301/BIOL-301	Mathematics-1/ General Biology-1	3(3-0)/ 3(2-2)
BCH-310	Introductory Biochemistry	3(2-2)
FSQM-301	Introduction to Food Science & Technology	3(2-2)
FSQM-303	Food Safety & Public Health	3(2-2)
FQ-301	Fehm-e-Quran	1(1-0)
SOS-302	Seerat Studies	1(1-0)
	Total	21

Semester-II		
Course Code	Course Title	Credit Hours
ENG-302	Expository Writing	3(3-0)
SOC-301	Introduction to Sociology	2(2-0)
SSH-301	Ideology and constitution of Pakistan	2(2-0)
SSH-303	Pakistan Studies	2(2-0)
IS-302	Islamic Studies and Ethics	2(2-0)

MATH-302/ BIOL-302	Mathematics-II/ General Biology-II	3(3-0)/ 3(2-2)
FSQM-302	Principles of Human Nutrition	3(2-2)
FSQM-304	Pre-Requisite Programs in Food Safety & Quality	3(2-2)
FQ-302	Fehm-e-Quran-II	1(1-0)
	Total	21

Semester-III		
Course Code	Course Title	Credit Hours
QR-401	Quantitative Reasoning-1	3(3-0)
FSQM-401	Introduction to Food Toxicology	3(2-2)
FSQM-403	Food Process Engineering - I	3(2-2)
FSQM-405	Food Laws & Regulations	3(3-0)
FSQM-407	Food Safety & Quality Management Systems	3(3-0)
FT-501	Principles of Food Preservation	3(2-2)
FT-401	Food Processing and Preservation	3(2-2)
	Total	21

Semester-IV		
Course Code	Course Title	Credit Hours
QR-402	Quantitative Reasoning-1I	3(2-2)
MGT-402	Entrepreneurship	2(2-0)

FSQM-402	Food Biotechnology	3(2-2)
FSQM-404	Fundamentals of Food Systems	3(2-2)
FSQM-406	Food Service Management	3(2-2)
HND-508	Global Food Issues	3(3-0)
FT-510	Food Toxicology and Safety	3(3-0)
	Total	20

Semester-V		
Course Code	Course Title	Credit Hours
IT-302	Introduction to Information and Communication Technologies	3(2-2)
FSQM-501	Safety and Quality Management in Fruits and Vegetable Processing	3(2-2)
FSQM-503	Food Analysis and Sensory Evaluation	3(2-2)
FSQM-505	Food Microbiology	3(2-2)
FSQM-507	Safety & Quality Management in Fats & Oil Processing	3(2-2)
FSQM-509	Safety and Quality Management in Sugar and Beverages Industry	3(2-2)
FSQM-511	Food Supply Chain and Quality Management	3(3-0)
	Total	21

Semester-VI		
Course Code	Course Title	Credit Hours
FSQM-502	Quality Tools & Techniques	3(3-0)
FSQM-504	Safety and Quality Management in Cereal Processing	3(2-2)
FSQM-506	Safety and Quality Management in Dairy Processing	3(2-2)
FSQM-508	Safety and Quality Management in Meat, Egg and Seafood Processing	3(2-2)
FSQM-510	Safety and Quality Management in Snacks and Confectionary Processing	3(2-2)
FSQM-512	Food Plant Sanitation and Layout	3(3-0)
	Total	18

Semester-VII		
Course Code	Course Title	Credit Hours
FSQM-601	Food Product Development	3(2-2)
FSQM-603	Risk Assessment and Control Plans	3(3-0)
FSQM-605	Audit and Inspection Techniques	3(3-0)
FSQM-607	Global Food Safety Issues and Consumer Behavior	3(3-0)
FSQM-609	Food Packaging and Design	3(2-2)
FSQM-611	Safety and Quality Management in Bakery Industry	3(2-2)
	Total	18

Semester-VIII		
Course Code	Course Title	Credit Hours
FSQM-299	Internship/Project	3(0-6)
FSQM-399	Capstone Project	3(0-6)
	Total	6

SCHEME OF STUDIES FOR M.SC. (HONS.)/PH.D FOOD TECHNOLOGY		
Course Code	Course Title	Credit Hours
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	3(2-2)

	Products	
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-731	Advances in Sustainable Food Systems	3(3-0)
FT-732	Sustainable Food Systems: Research and Policy (PhD)	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.) HUMAN NUTRITION AND DIETETICS		
Course Code	Course Title	Credit Hours
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)

**SCHEME OF STUDIES FOR M.SC. (HONS.) FOOD SAFETY AND QUALITY
MANAGEMENT**

Course Code	Course Title	Credit Hours
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 Labelling, 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)

INSTITUTE OF SOIL & ENVIRONMENTAL SCIENCES

Director of the Institute

Prof. Dr. Azeem Khalid



Soil science is the study of soil as a natural resource on the surface of the earth including soil formation, classification and mapping; physical, chemical, biological, and fertility properties of soils and these properties in relation to the use and management of soils. Soil science, since its inception some 150 years ago, has made significant contributions to the quality of human life and has enhanced our understanding of soil resource management to meet the food and fiber needs of humans. In the last few decades, it has become clearer that this task has to be done in the context of a functional ecosystem. The ability to feed the burgeoning population, while enabling the multi-functionality of land, has raised concerns on food security. The consequence is a new challenge that seeks a balance between human demands and ecosystem services and their integrity. This changing demand of society has spurred new areas of investigation such as soil quality in relation to water quality, land degradation, cycling of bio-geochemicals, soil pollution assessment and monitoring.

Department of Soil Science and Soil & Water Conservation at PMAS-Arid Agriculture University, Rawalpindi is a multidisciplinary academic unit. The department began as separate Soil Science & Soil Water Conservation entity in 1979, which was transformed in 1995 but has always maintained broad array of programs that deal with soil and water conservation, soil fertility & cropping systems and issues of importance to Pothwar region. The department's strength is its ability to seek solutions to problems that require the integration of discipline and collaboration of researchers and educators.

Department of Environmental Sciences was established in 2007 at the PMAS Arid Agriculture University Rawalpindi. Currently, the Department offers three-degree programs: BS, M.Phil and Ph.D. to train our undergraduate and graduate students in understanding environmental processes in an integrated manner, preparing them to manage environmental challenges. We provide state-of-the-art research infrastructure and services to support field and laboratory work. A degree holder from this department would be able to identify the underlying processes and feedback in the environmental system and through a range of approaches from theory to experiments and observations, it is possible to address current and future environmental challenges.

Faculty of the Institute

Department of Soil Science

Chairman	Dr. Muhammad Akmal
Associate Professors	Dr. Rifat Hayat Dr. Shahzada Sohail Ijaz Dr. Kaiser Hussain Dr. Arshad Nawaz Chaudhary
Assistant Professors	Dr. Tanveer Iqbal Dr. Sarvet Jehan Dr. Muhammad Azeem
Lecturer	Dr. Rabia Khalid

Department of Environmental Sciences

Chairman	Prof. Dr. Azeem Khalid
Associate Professor	Dr. Shahid Mahmood
Assistant Professors	Dr. Farzana Kausar Dr. Muzammil Anjum
Lecturer	Dr. Aniq Batool



Degree programs offered in IS&ES

M.Sc (Hons.) Agriculture Soil Science

Admission Requirement:

- B.Sc. (Hons.) Agriculture (Soil Science) with CGPA of at least 2.50/4.00.
- Must pass University Entrance Test.

ACADEMIC STANDING:

- (i) Grade Point Average:
Maximum grade point average 4.00
Minimum grade point average for obtaining M.Sc (Hons.) 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.

Semester	CGPA
1st	1.50
2nd	2.00
3rd	2.25
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/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 Soil Science

Admission Requirement:

- M.Sc. (Hons.) Agriculture (Soil Science) with CGPA of at least 3.00/4.00.
- Must passed University GRE Type Subject test with 70% marks.
- The Ph.D application must be accomplished by comprehensive project proposal along with consent letter from concerned supervisor with justification of resources.

ACADEMIC STANDING:

Grade Point Average: Grade points will be as follow:

Maximum grade point average 4.00

Minimum grade point average for obtaining the degree 3.00

- To remain on the rolls of the University a student shall be required to maintain the minimum CGPA of 3.00.
- 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.

M. Phil Environmental Sciences

Admission Requirement:

- BS/M.Sc. (Environmental Sciences), Agriculture, Forestry, Wildlife, Biochemistry, Microbiology, MBBS, Botany, Zoology, Biology, Biosciences, Chemistry, Physics, RS & GIS, Geology, Climate, Natural Sciences, Engineering, DVM or any other equivalent with CGPA of at least 2.50/4.00.
- Must pass University Entrance Test.

ACADEMIC STANDING:

- (i) Grade Point Average:
Maximum grade point average 4.00
Minimum grade point average for obtaining M.Sc (Hons.) 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.

Semester	CGPA
1st	1.50
2nd	2.00
3rd	2.25
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/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 Environmental Sciences

Admission Requirement:

- M.Sc. (Hons.)/M.Phil. in relevant discipline with CGPA of at least 3.00/4.00.
- Must passed University GRE Type Subject test with 70% marks.
- The Ph.D application must be accomplished by comprehensive project proposal along with consent letter from concerned supervisor with justification of resources.

ACADEMIC STANDING:

Grade Point Average: Grade points will be as follow:

Maximum grade point average 4.00

Minimum grade point average for obtaining the degree 3.00

- To remain on the rolls of the University a student shall be required to maintain the minimum CGPA of 3.00.
- 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 STUDY BACHELOR OF SCIENCE (ENVIRONMENTAL SCIENCES)

Semester-I		
Course Code	Course Title	Credit Hours
ENV-301	Introduction to Environmental Science	3(3-0)
NV-302	Soil and Environment	3(3-0)
RSG-303	Introduction to Geographic Information Systems	3(2-1)
SOS-301	Moral Foundation of Education	2(2-0)
SSH-301	Civic and Community Engagement	2(2-0)
ENG-301	Functional English	3(3-0)
BIOL 301	Biology	3(2-2)
SOS-302	Seerat Studies	2(2-0)
Audit-1	Translation of Holy Quran-I	Non-Credit
	Total	21

Semester-II		
Course Code	Course Title	Credit Hours
ENV-303	Environmental Chemistry	3(2-2)
FR-306	Forestry and Climate Change	3(3-0)
ENG-302	Expository Writing	3(3-0)
SOC-302	Introduction to Sociology	2(2-0)
SSH-302	Ideology and Constitution of Pakistan	2(2-0)
SSH-303	Pakistan Studies	2(2-0)

IS-302/ET-302	Islamic Studies/Ethics	2(2-0)
CSC-100	Applications of Information and Communication Technologies (ICT)	3(2-2)
TOQ-302	Translation of Holy Quran-II	(Non-Credit)
	Total	20
Semester-III		
Course Code	Course Title	Credit Hours
ENV-401	Environmental Microbiology	3(2-2)
ENV-402	Biodiversity and Conservation	3(3-0)
ENV-403	Environmental Toxicology	3(3-0)
ENV-404	Environmental Law and Policy	3(3-0)
ENV-405	Solid Waste Management	3(3-0)
QR-401	Quantitative Reasoning-I	3(3-0)
MGT-402	Entrepreneurship	2(2-0)
	Total	20

Semester-IV		
Course Code	Course Title	Credit Hours
ENV-406	Fundamentals of Ecology	3(3-0)
ENV-407	Air and Noise Pollution	3(3-0)
ENV-408	Natural Resource Management	3(3-0)
ENV-409	Environmental Physics	3(3-0)
QR-402	Quantitative Reasoning-II	3(1-2)

STAT-402	Experimental Design	3(2-2)
TOQ-402	Translation of Holy Quran-IV	(Non-Credit)
	Total	18

Semester-V		
Course Code	Course Title	Credit Hours
ENV-501	Environmental Impact and Risk Assessment	3(3-0)
ENV-502	Introduction to GIS and Remote sensing	3(3-0)
ENV-503	Environmental Profile of Pakistan	3(3-0)
ENV-504	Occupational Safety, Health & Environment	3(3-0)
ENV-505	Climatology	3 (3-0)
SS-505	Land Degradation and Management	3 (3-0)
	Total	18

Semester-VI		
Course Code	Course Title	Credit Hours
ENV-506	Environmental Economics	3(3-0)
ENV-507	Introduction to Wastewater Treatment Processes	3(3-0)
ENV-508	Environmental Management Systems	3(3-0)
ENV-509	Climate Smart Agriculture	3(3-0)
ENV-510	Environmental Analytical Techniques	3(3-0)

FMPE-504	Precision Agriculture	3(2-1)
	Total	18

Semester-VII		
Course Code	Course Title	Credit Hours
ENV-601	Environmental Nanotechnology	3(3-0)
ENV-602	Energy and Environment	3(3-0)
ENV-603	Ecotourism	3 (3-0)
ENV-604	Toxic Organics and Trace Metals in Ecosystem	3(2-2)
ENV-605	Cleaner Production Technology	3(3-0)
ENV-606	Disaster Risk Management	3(3-0)
	Total	18

Semester-VIII		
Course Code	Course Title	Credit Hours
ENV-609	Field Experience / Internship	3 (0-3)
ENV-610	Capstone Project	3 (0-3)
	Total	6

SCHEME OF STUDIES FOR M.SC. (HONS.)/PH.D SOIL SCIENCE		
Course Code	Course Title	Credit Hours
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-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)
SS-720	Seminar-I	1(1-0)
SS-799	Research & Thesis M.Sc (Hons.)	10(0-20)
SS-799	Research & Thesis Ph.D	50(0-100)

SCHEME OF STUDIES FOR M.PHIL./PH.D ENVIRONMENTAL SCIENCES		
Course Code	Course Title	Credit Hours
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)
ENV-720	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)
ENV-799	Research & Thesis M.Phil	10(0-20)
ENV-799	Research & Thesis Ph.D	50(0-100)

INSTITUTE OF GEO-INFORMATION & EARTH OBSERVATION (IGEO)

Chairman of the Institute Dr. Muhammad Naveed Tahir



Institute of Geo-Information & Earth Observation (IGEO) is a leading institution delivering quality education at undergraduate and postgraduate levels in the fields of GIS & Remote Sensing. The institute offers four years of Bachelors in Geoinformatics, two years MS in Remote Sensing (RS) and Geographical Information Systems (GIS) and Ph.D. in RS & GIS. The institute is also serving as a hub for various national and international research programs and projects.

The Institute has experienced faculty holding MS, Ph.D. and Post Doc degrees in various disciplines from reputed International and National Universities. In future, IGEO aims to enhance its areas of research and development without compromising quality and standard of education excellence.



Faculty of the Institute

Chairman	Dr. Muhammad Naveed Tahir
Associate Professors	Dr. Muhammad Imran
	Dr. Muhammad Amin
Lecturers	Mr. Naeem Abbas Malik
	Hafiz Abdul Basit Zaid

Degrees offered at IGEO

BS (Remote Sensing & GIS)

Minimum Requirements for the Award of Degree

The duration of the Course for completing the course for the degree of Bachelor of Sciences (Remote Sensing & GIS):-

- shall normally be eight semesters and maximum 12 semesters.
- The minimum course requirement is 130 credit hours.
- A full time student shall be required to take courses not less than 15 credits hours and maximum 18 credit hours in a semester.

Admission Requirement:-

- F.Sc. (Pre-Medical/Pre-Engineering/ICS) or equivalent qualification with at least 45% marks.
- Must pass University Entrance Test.

Admission Authority:-

The Director of the Institute shall be responsible for admission to the programme.

AGE: A candidate must not be more than 25 years of age on 1st date of semester of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

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

Academic Standing:

Grade Point Average

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

Explanation:

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

MS (Remote Sensing & GIS)

Admission Requirement:

- 16 years of education with the last degree in Geo-Informatics/RS & GIS)/Sciences/Computer Sciences/Engineering/Geography and related discipline with at least CGPA of 2.50/4.00 or 50% marks in the last degree under annual system.
- Must pass University Entrance Test.

ACADEMIC STANDING:

- (i) Grade Point Average:
Maximum grade point average 4.00
Minimum grade point average for obtaining M.Sc (Hons.) 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.

Semester	CGPA
1st	1.50
2nd	2.00
3rd	2.25
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/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.

Ph.D (Remote Sensing & GIS)

Admission Requirement:

- MS/M.Phil with first division in the relevant field or CGPA of at least 3.00/4.00.
- Must passed University GRE Type Subject test with 70% marks.
- The Ph.D application must be accomplished by comprehensive project proposal along with consent letter from concerned supervisor with justification of resources.

ACADEMIC STANDING:

Grade Point Average: Grade points will be as follow:

Maximum grade point average 4.00

Minimum grade point average for obtaining the degree 3.00

- i. To remain on the rolls of the University a student shall be required to maintain the minimum CGPA of 3.00.
- ii. 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 STUDY BACHELOR OF SCIENCE (REMOTE SENSING & GIS)

Semester-I		
Course Code	Course Title	Credit Hours
GER-301	Quantitative Reasoning-I*	3 (3-0)
GER-303	Functional English*	3 (3-0)
GER-305	Applications of Information and Communication Technologies*	3 (2-1)
RSG-301	Introduction to GIS	3 (2-1)
RSG-303	Introduction to Physical Geography	3 (3-0)
IDS-I	Introduction to Programming	3 (3-0)
	Total	18

Semester-II		
Course Code	Course Title	Credit Hours
GER-302	Quantitative Reasoning-II*	3 (3-0)
GER-304	Social Science**	2 (2-0)
GER-306	Expository Writing**	3 (3-0)
GER-308	Natural Science**	3 (2-1)
RSG-302	Introduction to Remote Sensing	3 (2-1)
RSG-304	Map work and Projections	3 (2-1)
	Total	18

Semester-III		
Course Code	Course Title	Credit Hours
GER-401	Arts and Humanities**	2 (2-0)
GER-403	Islamic Studies (Religious Education / Ethics for non-Muslim students) *	2 (2-0)
GER-405	Pakistan Studies*	2 (2-0)
RSG-401	Land Surveying	3 (2-1)
RSG-403	Digital Image Processing	3 (2-1)
RSG-405	Global Navigation Satellite System	3 (2-1)
IDS-III	Data Structure and Algorithms	3 (3-0)
	Total	18

Semester-IV		
Course Code	Course Title	Credit Hours
GER-402	Civics and Community Engagement*	2 (2-0)
GER-404	Ideology and Constitution of Pakistan*	2 (2-0)
GER-406	Entrepreneurship*	2 (2-0)
RSG-402	Active Remote Sensing	3 (2-1)
RSG-404	Photogrammetry	3 (2-1)
RSG-406	Digital Cartography	2 (1-1)
RSG-408	Spatial Data Analysis	3 (2-1)
	Total	18

Semester-V		
Course Code	Course Title	Credit Hours
IDS-V	Disaster Management and Risk Assessment	3 (3-0)
IDS-VII	Project Management	3 (3-0)
RSG-501	Spatial Data Infrastructure and Standardization	3 (3-0)
RSG-503	Mobile Data Acquisition and Mapping	3 (2-1)
RSG-505	GIS Programming and Customization	3 (2-1)
	Total	15

Semester-VI		
Course Code	Course Title	Credit Hours
RSG-502	Research Methodology	3 (3-0)
RSG-504	Spatial Decision Support Systems	3 (3-0)
RSG-506	Spatial Databases	3 (2-1)
RSG-508	Hyperspectral Remote Sensing	3 (2-1)
	Elective-I	3 (3-0)
	Elective-II	3 (3-0)
	Total	18

Semester-VII		
Course Code	Course Title	Credit Hours
RSG-601	Web GIS	3 (2-1)
RSG-603	Artificial Intelligence in RS and GIS	3 (2-1)
RSG-605	Spatial Data Modelling	3 (2-1)
	Elective-III	3 (3-0)
	Elective-IV	3 (3-0)
	Total	15

Semester-VIII		
Course Code	Course Title	Credit Hours
RSG-602	Unmanned Aerial Vehicle and Data Processing	3 (2-1)
RSG-604	Machine Learning in Spatial Data	3 (2-1)
	Elective-V	3 (3-0)
	Elective-VI	3 (3-0)
RSG-606	Capstone Project	3 (3-0)
	Total	15

Elective Courses BS Remote Sensing and GIS		
Course Code	Course Title	Credit Hours
RSG-507	Introduction of GIS in Natural Resources Management	3 (2-1)
RSG-509	Spatial Data Analysis for Natural Resources	3 (2-1)
RSG-510	GIS for Forest and Biodiversity Conservation	3 (2-1)
RSG-511	GIS for Watershed and Water Resources Management	3 (2-1)
RSG-512	Land Use and Land Cover Change Analysis	3 (2-1)
RSG-513	GIS for Soil Resource Mapping and Sustainable Land Management	3 (2-1)
RSG-514	GIS in Climate Change Impact Assessment	3 (2-1)
RSG-515	GIS in Mineral Exploration	3 (2-1)
RSG-516	GIS for Hydrocarbon Exploration	3 (2-1)
RSG-517	Introduction of GIS in Natural Resources Management	3 (2-1)
RSG-518	Spatial Data Analysis for Natural Resources	3 (2-1)

SCHEME OF STUDY MASTER OF SCIENCE (REMOTE SENSING & GIS)

Semester-I		
Course Code	Course Title	Credit Hours
RSG-701	Advanced GIS	3
RSG-703	Advanced Remote Sensing and Digital Image Processing	3
	Elective - I	3
	Elective - II	3
	Total	12

Semester-II		
Course Code	Course Title	Credit Hours
RSG-702	Advanced Research Methods	3
RSG-704	Advanced Geodatabase and Programming	3
	Elective - III	3
	Elective - IV	3
	Total	18

Semester-III		
Course Code	Course Title	Credit Hours
RSG-799	Thesis	10
	Total	10

Semester-IV		
Course Code	Course Title	Credit Hours
RSG-799	Thesis	Continued

ELECTIVE COURSES		
Course Code	Course Title	Credit Hours
RSG-705	Remote Sensing applications in Urban areas	3 (2-1)
RSG-706	GIS in Agriculture and Natural Resources	3 (2-1)
RSG-707	Marine Remote Sensing	3 (2-1)
RSG-708	Spatial Cloud Computing	3 (2-1)
RSG-709	Climate change Mitigation and adaptation	3 (2-1)
RSG-710	Disaster Risk Reduction	3 (2-1)
RSG-711	Spatial Hydrology	3 (2-1)
RSG-712	Special topics in GIS	3 (2-1)
RSG-713	Special topics in RS	3 (2-1)

RSG-714	Spatial Epidemiology	3 (2-1)
RSG-715	Hydrology and Water Resources	3 (2-1)
RSG-716	Geostatistics	3 (2-1)
RSG-718	Fluvial Morphology	3 (2-1)
RSG-719	Applied Geomorphology	3 (2-1)
RSG-720	Land Information System	3 (2-1)
RSG-721	Spatial Data Infrastructure	3 (2-1)
RSG-722	Spatial decision support system	3 (2-1)
RSG-723	Food security and Climate Change	3 (2-1)
RSG-724	Advanced Web GIS	3 (2-1)

RECOMMENDED LIST OF INTERDISCIPLINARY COURSES

Course Code	Course Title	Credit Hours
RSG-725	GIS for Health Services	3 (2-1)
RSG-726	GIS for Education Services	3 (2-1)
RSG-727	GIS for Tourism Development	3 (2-1)
RSG-728	Spatial Statistics	3 (2-1)
RSG-729	Geo Artificial Intelligence	3 (2-1)
RSG-730	Deep Learning in GIS	3 (2-1)
RSG-731	Geo-visualization	3 (2-1)
RSG-732	Remote Sensing of Cryosphere	3 (2-1)
RSG-733	GIS for Energy Management	3 (2-1)
RSG-734	Soil Geomorphology	3 (2-1)

RSG-735	Utilities and Service Management	3 (2-1)
RSG-736	Climate Data modeling	3 (2-1)
RSG-737	Digital Earth and Data Science	3 (2-1)
RSG-738	Airborne and Terrestrial Lidar	3 (2-1)
RSG-739	Climate Data Mining and Analysis	3 (2-1)
RSG-740	Remote Sensing in Archeology	3 (2-1)

SCHEME OF STUDY DOCTOR OF PHILOSOPHY (REMOTE SENSING & GIS)

Semester-I		
Course Code	Course Title	Credit Hours
RSG-801	Advanced GIS*	3
RSG-803	Advanced Remote Sensing and Digital Image Processing*	3
	Elective - I	3
	Total	12

Semester-II		
Course Code	Course Title	Credit Hours
RSG-802	Advanced Research Methods*	3
RSG-804	Advanced Geodatabase and Programming*	3
	Elective - III	3

	Total	9
RSG-899	Thesis	50
	Total	50

ELECTIVE COURSES

Course Code	Course Title	Credit Hours
RSG-805	Remote Sensing applications in Urban areas	3 (2-1)
RSG-806	GIS in Agriculture and Natural Resources	3 (2-1)
RSG-807	Marine Remote Sensing	3 (2-1)
RSG-808	Spatial Cloud Computing	3 (2-1)
RSG-809	Climate change Mitigation and adaptation	3 (2-1)
RSG-810	Disaster Risk Reduction	3 (2-1)
RSG-811	Spatial Hydrology	3 (2-1)
RSG-812	Special topics in GIS	3 (2-1)
RSG-813	Special topics in RS	3 (2-1)
RSG-814	Spatial Epidemiology	3 (2-1)
RSG-815	Hydrology and Water Resources	3 (2-1)
RSG-816	Geostatistics	3 (2-1)
RSG-818	Fluvial Morphology	3 (2-1)
RSG-819	Applied Geomorphology	3 (2-1)
RSG-820	Land Information System	3 (2-1)
RSG-821	Spatial Data Infrastructure	3 (2-1)
RSG-822	Spatial decision support system	3 (2-1)
RSG-823	Food security and Climate Change	3 (2-1)

RSG-824	Advanced Web GIS	3 (2-1)
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RECOMMENDED LIST OF INTERDISCIPLINARY COURSES

Course Code	Course Title	Credit Hours
RSG-825	GIS for Health Services	3 (2-1)
RSG-826	GIS for Education Services	3 (2-1)
RSG-827	GIS for Tourism development	3 (2-1)
RSG-828	Spatial Statistics	3 (2-1)
RSG-829	Geo Artificial Intelligence	3 (2-1)
RSG-830	Deep Learning in GIS	3 (2-1)
RSG-831	Geo-Visualization	3 (2-1)
RSG-832	Remote Sensing of Cryosphere	3 (2-1)
RSG-833	GIS for energy management	3 (2-1)
RSG-834	Soil Geomorphology	3 (2-1)
RSG-835	Utilities and service management	3 (2-1)
RSG-836	Climate Data modeling	3 (2-1)
RSG-837	Digital earth and Data Science	3 (2-1)
RSG-838	Airborne and Terrestrial Lidar	3 (2-1)
RSG-839	Climate Data Mining and Analysis	3 (2-1)
RSG-840	Remote Sensing in Archeology	3 (2-1)

INSTITUTE OF ANIMAL SCIENCES

History

The Institute of Animal Sciences (IAS) is established at Pir Mehr Ali Shah Arid Agriculture University Rawalpindi (PMAS-AAUR) to address the growing need for academic excellence and research in the field of animal sciences. Initially founded as a Department of Animal Sciences under Faculty of Crop & Food Sciences then changed into Department of Livestock Production and Management in 2006 as part of Faculty of Veterinary & Animal Sciences, it was later upgraded to an Institute in 2025, reflecting the increasing demand for advanced education and research in livestock and related sectors.

The Institute is playing a vital role in producing trained manpower in various disciplines including:

- Animal Nutrition
- Livestock Management
- Dairy and Meat Science
- Poultry Science
- Genetics
- Animal Breeding and Genetics

In collaboration with national and international agencies, the Institute has also secured research funding from bodies like the Higher Education Commission (HEC) to improve infrastructure and develop laboratories equipped with modern facilities.

The IAS is committed to enhancing livestock productivity and sustainability by addressing issues related to:

- Food security
- Animal health and welfare
- Sustainable livestock production systems
- Genetic improvement of indigenous breeds

Through its undergraduate, graduate, and postgraduate programs, the Institute prepares students to meet the challenges of Pakistan's livestock sector and contribute to national economic development.

Faculty of the Institute

Department of Livestock Production & Management

Chairman	Dr. Nasir Mukhtar
Assistant Professors	Dr. Muhammad Fiaz Dr. Muhammad Farooq Iqbal Dr. Syeda Maryam Hussain Dr. Kashif Ishaq
Lecturer	Mr. Muhammad Imran Khan

Department of Animal Breeding & Genetics

Chairman	Dr. Muhammad Moaen-ud-Din
Associate Professor	Dr. Ghulam Bilal
Assistant Professor	Dr. Hafiz Muhammad Waheed

Department of Poultry Science

Assistant Professor	Dr. Zaib-Ur-Rehman
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Department of Livestock Production & Management

Livestock and poultry farming in Pakistan are among the largest industries and play a vital role in the rural economy, making a significant contribution to agriculture and the national GDP. Different types of livestock in the country provide food, draught power, fuel, and fertilizer. They also ensure a steady source of income and employment, especially for small farmers and landless workers. Livestock are essential for utilizing crop residues, stubble, roadside vegetation, and rangeland resources, including hilly and sub-hilly areas, which would otherwise go to waste.

Recognizing the importance of livestock in the national economy, the Department of Animal Sciences was established in 1993 at the University of Arid Agriculture (now Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi). Its initial purpose was to offer introductory courses to B.Sc. (Hons.) Agriculture students, helping them gain basic knowledge of

livestock and poultry farming. Later, in collaboration with the Poultry Research Institute, Rawalpindi, a postgraduate program in Poultry Husbandry was launched in 2001-02. With the establishment of the Faculty of Veterinary and Animal Sciences in September 2006, the Department of Livestock Production and Management was formed with specific objectives.

- The department aims to provide students with both basic and applied knowledge, building a strong foundation in livestock production sciences. It emphasizes key areas such as animal farm management, feeding practices, and breeding and genetics.
- The department also strives to meet students' educational needs by preparing them to handle real-world challenges in livestock farming. Students are trained in farm planning and management, feed formulation, feed procurement and milling technologies, breeding strategies, and independent research.
- Additionally, they develop teamwork abilities along with strong communication skills, both written and verbal. The department also focuses on educating students about animal welfare, ethical considerations in animal use, and the social and environmental impact of livestock farming.

Department Goal and Mission:

The main goal of the department is to produce skilled professionals and contribute to poverty reduction by creating income-generating opportunities across all scales of livestock farming. It also aims to strengthen food security under the slogan "more milk, meat, and eggs."

Mission Statement:

The mission is to develop strong conceptual understanding through quality teaching, laboratory work, and practical training at livestock farms, preparing individuals for modern livestock production and technologies.

Future Plans and Expansion Areas:

The department plans to introduce postgraduate programs in Animal Nutrition, Livestock Management, and Animal Breeding and Genetics. It also intends to conduct problem-oriented research addressing major challenges in animal production, establish livestock research farms, and develop strategies to reduce methane emissions for improved productivity and reduced environmental impact. Further research will focus on enhancing essential nutrients such as

selenium, folic acid, omega-3 fatty acids, and iron in dairy and poultry products. Additionally, the department aims to support local farmers by providing facilities like milk and feed analysis through on-campus laboratory services.

Facilities & Labs

1. Dairy Lab
2. Meat Lab
3. Undergraduate Animal Nutrition Lab
4. Postgraduate Animal Nutrition Lab
5. Animal Research Station, at Main Campus
6. Animal Feed Mills Unit
7. URF, Farm Facilities for Small and Large Ruminants
8. Department Library

Degrees offered at IAS

BS (Animal Science)/(Poultry Science)

Minimum Requirements for the Award of Degree

- The duration of the Course for completing the course for the degree of Bachelor of Sciences (Animal Sciences)/(Poultry Sciences) shall normally be eight semesters and maximum 12 semesters.
- The minimum course requirement is 130 credit hours.
- A full time student shall be required to take courses not less than 15 credits hours and maximum 18 credit hours in a semester.

Admission Requirement:-

- F.Sc. (Pre-Medical) or equivalent qualification with at least 45% marks.
- Seats are on all Pakistan basis.
- Must pass University Entrance Test.

Admission Authority:-

The Director of the Institute shall be responsible for admission to the programme.

AGE: A candidate must not be more than 25 years of age on 1st date of semester of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

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

Academic Standing:

Grade Point Average

- Maximum grade point average 4.00
- Minimum grade point average for obtaining Degree (CGPA) 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.
- 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.

BS (Genetics)

Minimum Requirements for the Award of Degree

- The duration of the Course for completing the course for the degree of Bachelor of Sciences (Animal Sciences)/(Poultry Sciences) shall normally be eight semesters and maximum 12 semesters.
- The minimum course requirement is 130 credit hours.
- A full time student shall be required to take courses not less than 15 credits hours and maximum 18 credit hours in a semester.

Admission Requirement:-

- F.Sc. (Pre-Medical/Pre-Engineering) or A-level in three main subjects (no subsidiary) with minimum 45% with Equivalence Certificate.
- Seats are on all Pakistan bases.
- Must pass University Entrance Test.

Admission Authority:-

The Director of the Institute shall be responsible for admission to the programme.

AGE: A candidate must not be more than 25 years of age on 1st date of semester of the year of admission: provided that the Vice Chancellor may relax age limit in very exceptional cases.

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

Academic Standing:

Grade Point Average

- a. Maximum grade point average 4.00
- b. Minimum grade point average for obtaining Degree (CGPA) 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.
- 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.Phil (Livestock Management)

Admission Requirement:

- DVM, B.Sc. (Hons.) Animal Husbandry, BS(Animal Sciences)/(Dairy Technology)/(Dairy Science) with CGPA of at least 2.50/4.00.
- Must pass University Entrance Test.

ACADEMIC STANDING:

- Grade Point Average:
Maximum grade point average 4.00
Minimum grade point average for obtaining M.Phil Degree 2.50
- To remain on the rolls of the University a student shall be required to maintain the following GPA/CGPA in each semester.

Semester	CGPA
1st	1.50
2nd	2.00
3rd	2.25
4th	2.50

- 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.

M.Phil (Animal Nutrition)

Admission Requirement:

- DVM, B.Sc. (Hons.) Animal Husbandry, BS(Animal Sciences)/(Poultry Science)/(Dairy Science) with CGPA of at least 2.50/4.00.
- Must pass 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.

Semester	CGPA
1st	1.50
2nd	2.00
3rd	2.25
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/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.

M.Phil (Animal Breeding & Genetics)

Admission Requirement:

- DVM, B.Sc. (Hons.) Animal Husbandry/Agriculture Major in Animal Science, BS(Animal Sciences)/(Poultry Science) or other equivalent degree subject to the qualifying the deficiencies as per prescribed by the department board of the studies with CGPA of at least 2.50/4.00.
- Must pass University Entrance Test.

ACADEMIC STANDING:

- Grade Point Average:
Maximum grade point average 4.00
Minimum grade point average for obtaining M.Phil (Hons.) Degree 2.50
- To remain on the rolls of the University a student shall be required to maintain the following GPA/CGPA in each semester.

Semester	CGPA
1st	1.50
2nd	2.00
3rd	2.25
4th	2.50

- 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.

Ph.D (Livestock Management)/(Animal Nutrition)/(Animal Breeding & Genetics)

Admission Requirement:

- M.Sc. (Hons.)/MS/M.Phil with first division in the relevant field or CGPA of at least 3.00/4.00.
- Must passed University GRE Type Subject test with 70% marks.
- The Ph.D application must be accomplished by comprehensive project proposal along with consent letter from concerned supervisor with justification of resources.

ACADEMIC STANDING:

Grade Point Average: Grade points will be as follow:

Maximum grade point average 4.00

Minimum grade point average for obtaining the degree 3.00

- i. To remain on the rolls of the University a student shall be required to maintain the minimum CGPA of 3.00.
- ii. 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 STUDY BACHELOR OF SCIENCE (ANIMAL SCIENCE)

Semester-I		
Course Code	Course Title	Credit Hours
PS-301	Introductory Poultry Science	2(1-2)
LM-301	Fundamentals of Livestock Management	2(1-2)
PHYS -301	Introductory Animal Physiology	3(2-2)
ENG-301	Functional English	3(3-0)
SSH-301	Civics and Community Engagement	2(2-0)
SOC-301	Introduction to Sociology (Credit Hour Change)	2(2-0)
SOS-301	Moral Foundation of Education	2(2-0)
MATH-303 or BIOL-303	Applied Mathematics for Animal Scientists <i>(Biology Background Students Only) OR</i> Biology for Animal Scientists <i>(Math/CS Background Students Only)</i>	3(3-0)
FQ-301	Fehm Ul Quran (Compulsory minor adopted w.e.f. Fall, 2025-26)	1(0-1)
	Total	20

Semester-II		
Course Code	Course Title	Credit Hours
AN-302	Fundamentals of Animal Nutrition	3(2-2)
ABG-302	Principles of Genetics	3(2-2)
ANAT -304	Introduction to Veterinary Anatomy	3(2-2)

SSH-302	Ideology and Constitution of Pakistan	2(2-0)
BCH-310	Introduction to Biochemistry	3(2-2)
ENG-302	Expository Writing	3(3-0)
CSC-100	Applications of Information & Communication Technologies	3(2-2)
FQ-302	Fehm Ul Quran (Compulsory minor adopted w.e.f. Fall, 2025-26)	1(0-1)
	Total	21

Semester-III

Course Code	Course Title	Credit Hours
AN-403	Metabolism of Primary Nutrients	3(2-2)
ABG-401	Introductory Molecular Genetics and Genomics	3(2-2)
PS-403	Incubation Principles and Hatchery Management	3(2-2)
PS-407	Poultry Housing and Equipment	3(2-2)
BIOT-303	Introduction to Biotechnology	3(3-0)
QR-401	Quantitative Reasoning-I	3(3-0)
	Total	18

Semester-IV

Course Code	Course Title	Credit Hours
LM-402	Milk Biosynthesis and Lactation	3(2-2)

AN-402	Minerals and Vitamins in Nutrition	3(2-2)
ABG-402	Population Genetics	3(2-2)
PS-408	Commercial Broiler Production	2(1-2)
STAT-408	Biostatistics and Computer Application	3(2-2)
QR-402	Quantitative Reasoning II	3(3-0)
IS-302/ET-302	Islamic Studies/Ethics (for Non-Muslims)	2(2-0)
SSH-304	Entrepreneurship	2(2-0)
	Total	21

Semester-V		
Course Code	Course Title	Credit Hours
AN -501	Nutrition of Meat Animals	3(2-2)
AN-503	Dairy Nutrition	3(2-2)
LM-505	Dairy Farm Management	3(2-2)
LM-507	Equine and Camel Production	2(1-2)
ABG-501	Selection for Economic Traits in Farm Animals	2(1-2)
MICRO-501	Basic Microbiology	2(1-2)
PS-501	Layer Production and Management	3(2-2)
FT-503	Meat and Dairy Processing Technology	3(2-2)
	Total	15

Semester-VI		
Course Code	Course Title	Credit Hours
LM -502	Principles of Small Ruminant Production	3(2-2)
AN -502	Principles of Poultry Nutrition	3(2-2)
PS-502	Breeder Production and Management	3(2-2)
AGR-508	Forage and Fodder Production	3(2-2)
THER-603	Reproductive Management of Farm Animals	3(2-2)
MED-502	Introduction to Veterinary Preventive Medicine	3(2-2)
	Total	18

Semester-VII		
Course Code	Course Title	Credit Hours
LM -601	Principles of Meat Production	3(2-2)
LM-603	Livestock Farm Practices	1(0-2)
AN -603	Feed Milling Industry	3(2-2)
PS -603	Poultry Health Management	3(2-2)
ABG-601	Animal Breeding Plans and Policies	3(2-2)
PS-607	Poultry Breeding Practices	2(1-2)
FMPE-602	Precision Livestock Farm Machinery	3(2-2)
	Total	18

Semester-VIII		
Course Code	Course Title	Credit Hours
AS-399	Capstone Project	3(0-6)
AS-299	Internship	3(0-6)
	Total	6

SCHEME OF STUDY BACHELOR OF SCIENCE (POULTRY SCIENCE)

Semester-I		
Course Code	Course Title	Credit Hours
PS-301	Introductory Poultry Science	2(1-2)
PS-303	Rural Poultry Production	2(1-2)
PS-305	Poultry Physiology	3(2-2)
ENG-301	Functional English	3(3-0)
SSH-301	Civics and Community Engagement	2(2-0)
SOC-301	Introduction to Sociology	2(2-0)
SOS-301	Moral Foundation of Education	2(2-0)
FQ-301	Fehm e Quran 1	1(0-1)
	Total	17

Semester-II		
Course Code	Course Title	Credit Hours
PS-302	Poultry Behavior and Welfare	1(1-0)
AN-302	Fundamentals of Animal Nutrition	3(2-2)
ANAT-302	Avian Anatomy and Histology	3(2-2)
ABG-302	Principles of Genetics	3(2-2)
SSH-302	Ideology and Constitution of Pakistan	2(2-0)
BCH-310	Introduction to Biochemistry	3(2-2)
ENG-302	Expository Writing	3(3-0)
CSC-100	Applications of Information & Communication Technologies	3(2-2)
FQ-301	Fehm e Quran 2	1(0-1)
	Total	22

Semester-III		
Course Code	Course Title	Credit Hours
PS-403	Incubation Principles and Hatchery Management	3(2-2)
PS-405	Broiler Production and Management	3(2-2)
PS-407	Poultry Housing and Equipment	3(2-2)
AN-401	Metabolism of Primary Nutrients	3(2-2)
ABG-401	Introductory Molecular Genetics and Genomics	3(2-2)
Micro-403	General Microbiology	3(3-2)
QR-401	Quantitative Reasoning-I	3(3-0)
	Total	21

Semester-IV		
Course Code	Course Title	Credit Hours
PS-404	Fancy Bird Production	2(1-2)
PS-406	Poultry Reproduction	3(2-2)
AN-402	Minerals and Vitamins in Nutrition	3(2-2)
ABG-402	Population Genetics	3(2-2)
STAT-408	Biostatistics and Computer Application	3(2-2)
QR-402	Quantitative Reasoning II	3(3-0)
IS-302/ET-302	Islamic Studies/Ethics (for Non-Muslims)	2(2-0)
SSH-304	Entrepreneurship	2(2-0)
	Total	21

Semester-V		
Course Code	Course Title	Credit Hours
PS-501	Layer Production and Management	3(2-2)
PS-503	Poultry Products Technology	3(2-2)
ABG-503	Applied Poultry Breeding	3(2-2)
FMPE-507	Poultry Farm Equipment, Structure and Housing	3(2-2)
PATH-401	General Pathology	3(2-2)
EPID-501	Veterinary Epidemiology and Public Health	3(2-2)
PHAR-501	Introduction to Pharmacology	3(2-2)
	Total	21

Semester-VI		
Course Code	Course Title	Credit Hours
PS-502	Breeder Production and Management	3(2-2)
PS-504	Poultry Meat Science	2(1-2)
ABG-502	Biotechnology in Poultry Breeding	3(2-2)
AN-502	Principles of Poultry Nutrition	3(2-2)
AN-504	Feed Evaluation, Formulation and Processing Technology	3(2-2)
Micro-502	Avian Immunology	2(2-0)
PATH-502	Poultry Pathology	3(2-2)
	Total	19

Semester-VII		
Course Code	Course Title	Credit Hours
PS-601	Artificial Intelligence in Poultry Science	2(1-2)
PS-603	Poultry Health Management	3(2-2)
PS-605	Scientific Writing and Communication in Poultry	1(0-2)
PS-607	Poultry Farm Practices	1(0-2)
ABG-603	Conservation and Development of Indigenous Poultry Resources	2(1-2)

AN-601	Feed Milling Industry	3(2-2)
MED-601	Poultry Medicine	3(2-2)
MGT-601	World Poultry Markets and Trade	3(3-0)
	Total	18

Semester-VIII		
Course Code	Course Title	Credit Hours
PS-399	Capstone Project	3(0-6)
PS-299	Internship	3(0-6)
	Total	6

SCHEME OF STUDY BACHELOR OF SCIENCE (GENETICS)

Semester-I		
Course Code	Course Title	Credit Hours
ENG-303	Language Comprehension & Presentation Skills	3(3-0)
GEN-301	Cell Biology	3(2-2)
MATH-303	General Mathematics	3(3-0)
CS-300	Introduction to Information & Communication Technologies	3(2-2)
MICRO-402	Basic Microbiology	3(2-2)
AGR-301	Basic Agriculture	3(2-2)

FQ-301	Fahmul Quran	1(0-1)
	Total	20

Semester-II		
Course Code	Course Title	Credit Hours
GEN-302	Principles of Genetics	4(3-2)
MTH-310	Calculus & Analytical Geometry	3(3-0)
SoS-301	Moral Foundation of Education	2(2-0)
BCH-310	Introduction to Biochemistry	3(2-2)
PHYS -301	Introductory Animal Physiology	3(2-2)
FQ-302	Fahmul Quran	1(0-1)
	Total	16

Semester-III		
Course Code	Course Title	Credit Hours
MTH-435	Linear Algebra	3(3-0)
GEN-401	Cytogenetics	3(2-2)
GEN-402	Principles of Biochemistry	4(3-2)
SSH-301	Pakistan Studies	2(2-0)
CHEM-301	Physical Chemistry	3(2-2)
AS-302	Animal Husbandry	3(2-2)
FQ-302	Fahmul Quran	1(0-1)
	Total	19

Semester-IV		
Course Code	Course Title	Credit Hours
STAT-406	Biostatistics and Computer Application	3(2-2)
GEN-403	Molecular Biology	3(2-2)
GEN-404	Biometry - I	3(2-2)
IS-302/ET-302	Islamic Studies/Ethics	2(2-0)
BIOT-303	Introduction to Biotechnology	3(2-2)
CS-323	Programming Fundamentals	4(3-3)
	Total	18

Semester-V		
Course Code	Course Title	Credit Hours
GEN-501	Genetics and Evolution	4(4-0)
GEN-502	Molecular Genetics	4(3-2)
GEN-503	Microbial Genetics	4(3-2)
GEN-504	Population Genetics	3(2-2)
GEN-505	Principles of Breeding	3(2-2)
	Total	18

Semester-VI		
Course Code	Course Title	Credit Hours
GEN-506	Physiological Genetics	4(3-2)
GEN-507	Genetic Engineering	4(3-2)
GEN-508	Human Genetics	3(2-2)
GEN-509	Biometry - II	4(3-2)
GEN-510	Bioinformatics	3(2-2)
	Total	18

Semester-VII		
Course Code	Course Title	Credit Hours
GEN-601	Biosafety and Bioethics	3(2-2)
GEN-602	Developmental Genetics	3(3-0)
GEN-603	Biotechnology	3(2-2)
GEN-604	Research Techniques	4(3-2)
GEN-605	Genomics and Proteomics	3(2-2)
GEN-606	Seminar-I	1(0-1)
	Total	18

Semester-VIII		
Course Code	Course Title	Credit Hours
GEN-607	Immunogenetics	3(2-2)
GEN-608	Genetic Resources and Conservation	3(2-2)
GEN-609	Seminar-II	1(0-1)
MGT-617	Entrepreneurship	3(3-0)
GEN-610	Research project/Internship	6(0-6)
	Total	15

SCHEME OF STUDY FOR M. PHIL ANIMAL BREEDING & GENETICS		
Course Code	Course Title	Credit Hours
ABG-701	General Genetics	3(2-2)
ABG-702	Population Genetics	3(2-2)
ABG-703	Molecular Genetics of Farm Animals	3(2-2)
ABG-704	Breeding of Farm Animals	3(2-2)
ABG-705	Biometrical Genetics	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	Cytogenetic and Immunogenetics	3(2-2)

ABG-712	Bioinformatics	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	Scientific Writing and Publishing	1(1-0)
ABG-719	Special Problem	1(1-0)
ABG-720	Seminar	1(1-0)
ABG-799	Thesis	6(0-12)
FQ-701, FQ-702 will be taught as per University policy		

SCHEME OF STUDY FOR PH.D ANIMAL BREEDING & GENETICS		
Course Code	Course Title	Credit Hours
ABG-801	Analysis of Animal Breeding Research Data	3(1-4)
ABG-802	Animal Genomics	3(3-0)
ABG-803	Python programming	3(1-4)
ABG-804	Dairy Animal Breeding	3(3-0)
ABG-805	Beef Animal Breeding	3(3-0)
ABG-806	Sheep and Goat Breeding	3(3-0)
ABG-820	Seminar I	1(1-0)
ABG-820	Seminar II	1(1-0)
ABG-899	Thesis	50(0-100)
FQ-701, FQ-702 will be taught as per University policy		

SCHEME OF STUDY FOR M. PHIL LIVESTOCK MANAGEMENT		
Course Code	Course Title	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 and Goat Production	3(2-2)
LM-708	Recent Trends in Milk and 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-711	Livestock Farm Operations	2(0-4)
LM-712	Advanced Slaughterhouse Byproduct technology	3(2-1)
LM-713	Precision Livestock Farming and Smart Technologies	2(2-0)
LM-719	Special Problem	1(1-0)
LM-720	Seminar	1(1-0)
LM-799	Thesis	6(0-12)
FQ-701, FQ-702 will be taught as per University policy		

SCHEME OF STUDY FOR PH.D LIVESTOCK MANAGEMENT

Course Code	Course Title	Credit Hours
LM-801	Milk Secretion and Lactation	3(2-2)
LM-802	Animal Growth and Adaptation	3(3-0)
LM-803	Advances in Meat Production	3(3-0)
LM-804	Recent Advances in Livestock Management	3(3-0)
LM-805	Advanced Concepts in Livestock Production Systems	2(2-0)
LM-820	Seminar-I	1(1-0)
*LM-820	Seminar-II	1(1-0)
LM-899	Thesis	50(0-100)
FQ-701, FQ-702 will be taught as per University policy		

SCHEME OF STUDY FOR M. PHIL POULTRY SCIENCE

Course Code	Course Title	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 and Hygiene	3(2-2)
PS-708	Egg and Egg Products	3(2-2)

PS-709	Poultry Meat and 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)
PS-715	Avian Transgenic Technologies	3(2-2)
PS-801	Advanced Avian Production and Management	3(2-2)
PS-716	Advanced Readings in Poultry Science	3(2-2)
PS-802	Recent Advances in Poultry Science	2(2-0)
PS-719	Special Problem	1(1-0)
PS-720	Seminar	1(1-0)
PS-799	Thesis	6 (0-12)
FQ-701, FQ-702 will be taught as per University policy		

SCHEME OF STUDY FOR PH.D POULTRY SCIENCE

Course Code	Course Title	Credit Hours
PS-801	Advanced Avian Production and 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	Advanced 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)
FQ-701, FQ-702 will be taught as per University policy		

SCHEME OF STUDY FOR M. PHIL ANIMAL NUTRITION

Course Code	Course Title	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)
FQ-701, FQ-702 will be taught as per University policy		

SCHEME OF STUDY FOR PH.D ANIMAL NUTRITION

Course Code	Course Title	Credit Hours
AN-801	Modern Concepts in Ruminant Feeding	3(3-0)
AN-802	Molecular Animal Nutrition and Nutrigenomics	3(2-2)
AN-803	Animal Nutrition and Gastrointestinal Ecology	3(3-0)
AN-804	Clinical Animal Nutrition	3(3-0)
AN-805	Recent Advances in Avian Nutrition	3(3-0)
AN-820	Seminar-I	1(1-0)
AN-820	Seminar-II	1(1-0)
AN-899	Thesis	50(0-100)
FQ-701, FQ-702 will be taught as per University policy		

INSTITUTE OF HYDROPONIC AGRICULTURE (IHA)

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 Hydroponic Agriculture.

The Institute is hectically involved in the teaching of supporting courses (e.g. Introduction to Hydroponic Agriculture) to the classes of undergraduate & postgraduate degree programs in the Faculty of Agriculture 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 Institute

Director

Assistant Professors

Lecturer

Dr. Arshad Nawaz Chaudhary

Dr. Ambreen Bhatti

Dr. Abdul Hafeez

Dr. Ismara Naseem

Dr. Tajwar Alam

Degree Programs offered at IHA**M.Sc. (Hons.) Hydroponic Agriculture****Admission Requirement:**

- B.Sc (Hons.) Agriculture (Agriculture Extension, Plant Breeding and Genetics, Plant Pathology, Horticulture, Agronomy, BS/ M.Sc Botany, B.Sc/M.Sc Agriculture Engineering) BS/ M.Sc Environmental Science, BS/M.Sc (Soil Science), BS/ M.Sc, Food Technology with at least CGPA of 2.50/4.00.
- Must pass university entrance test.

**ACADEMIC STANDING:**

- (i) Grade Point Average:
Maximum grade point average 4.00
Minimum grade point average for obtaining M.Phil (Hons.) 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.

Semester	CGPA
1st	1.50
2nd	2.00
3rd	2.25
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/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.

SCHEME OF STUDY FOR M.SC. (HONS.) HYDROPONIC AGRICULTURE		
Course Code	Course Title	Credit Hours
IHA-701	Advanced Hydroponics Nutrients	3(2-2)
IHA-702	Advanced Aquaponics	3(2-2)
IHA-703	Hydroponics in Arid, Semi-Arid, and Saline Water Conditions	
IHA-704	Hydroponics and Controlled Environment Agriculture for Space Exploration	3(2-2)
IHA-705	Advanced Precision Hydroponics and Smart Controlled- Environment Agriculture (CEA)	3(2-2)
IHA-706	Advanced Marketing Strategies for Hydroponics Produce	3(2-2)
Optional subjects (Any two of the following)		
IHA-707	Applied Instrumentation for Controlled Environment Agriculture	
IHA-708	Advanced Postharvest Biology of Hydroponic Crops	3(2-2)

IHA-709	Advance Water Conservation and Management	3(2-2)
IHA-710	Advance Irrigation Management in Hydroponics	3(2-2)
IHA-711	Advance Agricultural Biotechnology	3(2-2)
IHA-712	Advance Plant Physiology in Hydroponics	3(2-2)
IHA-713	Water Gardening	3(2-2)
IHA-714	Home/Kitchen Hydroponics	3(2-2)
IHA-715	Hydroponics Management	3(2-2)
IHA-716	Green House Horticulture	3(2-2)
Seminar and Thesis		
IHA-717	Special Problem	1(1-0)
IHA-718	Seminar	1(1-0)
IHA-799	Research and Thesis [M.Sc. (Hons.)]	6(0-6)
FQ-701, FQ-702 will be taught as per University policy		

UNIVERSITY SUB-CAMPUS KHUSHAB

Administrator Prof. Dr. Abdullah Ali Shah

Pir Mehr Ali Shah, Arid Agriculture University Rawalpindi, Sub-Campus Khushab was established in 2007. It is premier education institute of the area located 2.5 km on the main Khushab-Jauharabad Road, Khushab. Campus has been dedicated to providing quality education and training to its students, with a focus on developing their intellectual, personal and professional growth. The campus is surrounded by a peaceful and serene environment. The mission of campus is to produce trained and skilled manpower, having a focus on innovation and entrepreneurship related to Agriculture and Veterinary sciences.

The campus is offering Livestock Assistant Diploma (LAD) Morning and Evening sessions.



UNIVERSITY SUB-CAMPUS ATTOCK

Administrator **Dr. Riffat Hayat**

Introduction

With the vision of providing affordable and quality education at the doorstep of the local population, the establishment of a sub-campus of Pir Mehr Ali Shah Arid Agriculture University Rawalpindi at Attock was approved in 2014. This initiative was endorsed by Mian Muhammad Shahbaz Sharif, the then Chief Minister of Punjab, on the recommendation of Sheikh Aftab Ahmed, MNA (NA-57 Attock-1) and Minister of State for Parliamentary Affairs, Government of Pakistan.

District Attock, covering an area of approximately 6,857 square kilometers, comprises six tehsils: Attock, Jand, Fateh Jang, Pindi Gheb, Hazro, and Hassan Abdal. About 80% of the population is directly or indirectly associated with agriculture, making it a vital sector for the region's economy. Strategically located at the border of Khyber Pakhtunkhwa and situated along the historic Shahra-i-Resham route to the northern areas, Attock holds significant geographic and economic importance.

Vision and Establishment

The sub-campus was established with the objective of promoting Barani (rain-fed) agriculture and improving the livelihoods of small farmers in the Potohar region. With the financial support of the Government of Punjab and the dedicated efforts of Sheikh Aftab Ahmed, the university successfully initiated this project in 2014.

Approximately 1,000 kanals of land have been acquired for the campus. Construction plans have been approved, and civil works have been initiated to develop a modern educational facility that meets academic and research standards.



Academic Programs

Currently, the sub-campus offers the following degree programs:

- B.Sc. (Hons) Agriculture
- B.Sc. (Hons) Human Nutrition and Dietetics
- BS Computer Science

These programs are designed to meet the academic and professional needs of the region, particularly in agriculture and allied disciplines.

Community Impact

The establishment of the Attock sub-campus has been widely appreciated by local communities across the district. It has significantly enhanced access to higher education, enabling students to pursue quality academic programs without the need to relocate to distant urban centers.

UNIVERSITY RESEARCH FARM, KOONT

The University Research Farm (URF), PMAS-Arid Agriculture University Rawalpindi was established in October 2007 under the project titled “Development of on Farm Student Research Facilities (at Koont Gujar Khan) UAAR” funded by Higher Education Commission (HEC). The total area of research farm is 1880 Kanals and it is located at village Koont, Gujar Khan (Mandra-Chakwal road) Rawalpindi. The project was completed in June, 2015 and URF became a regular component of the University.



The establishment of URF is aimed at i) imparting education in the field of agriculture in general and rainfed/barani agriculture in particular, hence producing highly skilled agricultural scientific manpower, ii) training the students (graduate and postgraduate) as well as farmers of the rainfed areas in modern scientific techniques, iii) providing the best planting materials to farmers for climatic conditions of the region, iv) investigating the management practices which should enhance crop productivity while minimizing soil degradation caused by erosion and nutrient losses. The mission of URF is to support the agricultural research, teaching, and public services of PMAS-Arid Agriculture University, Rawalpindi in an efficient and effective manner.



URF provides a modern platform for research and demonstration for all the teaching faculties of the University. The main infrastructure of URF includes; administration block, veterinary teaching hospital, boys & girls hostels, staff residences, glass houses, field laboratories, machinery shed, water reservoirs, internet facility, RO water plant, weather station etc.

Examination & Evaluation

Dates for the Examinations

The Deans / Directors shall prepare & submit the date sheet after proper scrutiny.

Center of Examination

- i. All examinations of the University shall be held according to the venue and date-sheet proposed by the Dean/Director concerned and notified by the Controller of Examinations.
- ii. The examinations will be conducted by respective teachers. The Chairman of Department will, however, make necessary arrangements for invigilation in case of general course.
- iii. If a candidate's paper is lost after having been received by the teacher/examiner and if he passes in all other courses of the examination, he may be required to appear in the lost paper on a date fixed by the Controller of Examinations, and if he obtains pass marks, he shall be deemed to have passed the examination.
- iv. In case of dispute as to whether a candidate's paper was duly received or not, the finding of the Controller of Examinations, subject to the approval of the Vice-Chancellor, shall be final.



Paper Setting and Marking

- i. The final examination of the course (Theory & Practical) of a semester shall be held collectively by setting a single examination paper for all the sections of a class on a date and at a time and place to be notified by the Controller of Examinations.
- ii. All teachers teaching various sections of a class will set their individual examination papers and submit them to the Department Chairman/Section In-charge who shall set the final single paper from the examination papers so submitted by the sectional teachers.
- iii. The answer books will be marked by the respective teachers individually or collectively as may be determined by Department Chairman/Section In-charge/Deans/Director.

- iv. The Chairman of the Department/Section In-charge will arrange the Invigilation/ supervision of the examination of the course, marking of the answer books and preparations of award lists; and send to the Controller of Examinations.

Evaluation

- i. The minimum pass marks for each course shall be 40% for undergraduate, postgraduate degree programs and 50% for Ph.D. separately in theory & practical (if applicable).
- 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 40%	F	0	Fail

The grade point will be worked based on percentage of marks obtained by a student in each course separately according to conversion table (Quality Points Table for GPA/CGPA) and not on the percentage of total marks obtained by a student. One credit hour shall carry twenty marks.

Calculation of GPA/CGPA:

- i. GPA/CGPA will be calculated at the end of each semester in accordance with the following formula:

$$\text{GPA/ CGPA} = \frac{\text{SUM OF QUALITY POINTS}}{\text{SUM OF THE CREDIT HOURS}}$$

- ii. The quality points table as given below will be used for calculating the GPA/CGPA:

Quality Points Table

	20	Q.P		40	Q.P		60	Q.P		80	Q.P		100	Q.P
D (40-49%)	8	1	D	16	2	D	24	3	D	32	4	D	40	5
	9	1.5		17	2.5		25	3.5		33	4.5		41	5.5
C (50-59%)	10	2		18	3		26	4		34	5		42	6
	11	2.33		19	3.5		27	4.5		35	5.5		43	6.5
	12	2.67	20	4	28	5	36	6	44	7				
B (65-79%)	13	3	C	21	4.33	C	29	5.5	C	37	6.5	D	45	7.5
	14	3.33		22	4.67		30	6		38	7		46	8
	15	3.67		23	5		31	6.33		39	7.5		47	8.5
A (80-100%)	16-20	4		24	5.33		32	6.67		40	8		48	9
				25	5.67	33	7	41	8.33	49	9.5			
				B	26	6	C	34	7.33	C	42		8.67	C
			27		6.33	35		7.67	43		9	51	10.33	
			28		6.67	36		8	44		9.33	52	10.67	
			29		7	37		8.33	45		9.67	53	11	
			30		7.33	38		8.67	46		10	54	11.33	
			31		7.67	39		9	47		10.33	55	11.67	
			A	32-40	8	B	40	9.33	C	48	10.67	C	56	12
							41	9.67		49	11		57	12.33
			42	10	50		11.33	58		12.67				
			43	10.33	51		11.67	59		13				
			44	10.67	B		52	12		60	13.33			
			45	11			53	12.33		61	13.67			
			46	11.33			54	12.67		62	14			
			47	11.67			55	13		63	14.33			
			A	48-60	12	B	56	13.33	B	64	14.67			
							57	13.67		65	15			
			58	14	66		15.33							
			59	14.33	67		15.67							
			60	14.67	68		16							
			61	15	69		16.33							
									62	15.33		70	16.67	

	63	15.67		71	17
A	64-80	16		72	17.33
				73	17.67
				74	18
				75	18.33
				76	18.67
				77	19
				78	19.33
				79	19.67
A	80-100	20			

Marks/ Grade of Deficiency Course

The marks / grade required to pass a deficiency course shall be the same as in the regulations relating to the examination/course concerned.

Examination & Weightage

i. 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 examinations be allowed a makeup examination in that examination.

In theory, weight-age to each component of examination shall be as prescribed here under:

- a. For all B.Sc. (Hons.) Agriculture, B.Sc. Agricultural Engineering, DVM, BS degree programs, B.Ed. (Hons.), M.Sc. (Hons.), MS, M.Phil. and Ph.D.

Mid Examination	30 %
Assignments	10 %
Final Examination	60 %

b. For all degree programs of Managements Sciences & Computer Sciences.

Mid Examination	30 %
Assignments	20 %
Final Examination	50 %

Award of Medals

General Conditions

- The candidates qualifying for the award of a degree in a passing year/calendar year (irrespective of their semester/session of admission in the degree program) will be considered. However, the candidate of a degree who as per rules, discontinued the studies/remained ceased on the university rolls/availed extra semester/enrolled as part time student will not be included in the competition for the award of Medal.
- The medals will be awarded on CGPA basis at, not less than 3.50 CGPA.
- For competition of award of a medal at least 20 students should be enrolled pass-out students during an Academic Year.
- Migrated students from other University will not be included in the competition for the award of Medals.
- The house unanimously approved award of Gold Medal at Faculty/Institute level and it will be applicable on newly admitted students w.e.f. Fall 2023-24 to onward.
- The award of Medal shall be subject to good conduct and behavior of the student (Excluding those students who have been punished by the “unfair means control committee” and University Discipline Committee) during his/her stay in the university to be certified by the concerned Dean/Director.
- The candidate must simultaneously fulfill all the conditions prescribed for the award of Medal. If a student fails to fulfill any of the conditions laid down in this behalf, he/she will not be eligible for the medal nor will that medal be transferred to the next student (i.e. lower achiever of CGPA) on the merit list of the passing students.
- In case more candidates than one become eligible for the award of medal, i.e. the CGPA of one or more candidates is same, and they fulfill all the conditions too, the medal shall be awarded to only one candidate, who got highest percentage, if the percentages are same as well then, the number of "A" grades during the degree program will be counted, and candidate having more number of "A" grades will be awarded the Medal. If the number of "A" grades of such candidates are also equal, then the number of "B" grades will be compared, and candidate having



more B grades will be awarded the Medal. In case number of "A" and "B" grades are same, their date of birth will be considered, and the person who is elder by age will get the Medal. In case Date of Births are same as well, the Medal will be awarded to both students.

AWARD OF MEDALS IN UNDERGRADUATE PROGRAMME

The following medals, Gold, Silver and Bronze are awarded in each undergraduate degree of minimum 08 semesters program of study for the students who fulfill the following conditions as well as the general conditions simultaneously. However, for the undergraduate degree having less than 08 semesters minimum residency, only Gold Medal is awarded on the same conditions.

Gold Medal

A gold medal may be awarded to a student who has Secured the highest CGPA in a degree program along with, qualifying following three conditions:

- Passed examination in each course of study in first attempt (i.e. students who improve D grades and repeat the courses of F grade will not be awarded with the medal).
- Obtained 70% or more marks in each semester in aggregate of all the courses.
- Completed all requirements for the degree program during the minimum prescribed period.

Silver Medal

A silver medal may be awarded to a student who has Secured the second highest CGPA in a degree program along with, qualifying following three conditions:

- Passed examination in each course of study in first attempt (i.e. students who improve D grades and repeat the courses of F grade will not be awarded with the medal).
- Obtained 70% or more marks in each semester in aggregate of all the courses.
- Completed all requirements for the degree program during the minimum prescribed period.

Bronze Medal

A silver medal may be awarded to a student who has Secured the third highest CGPA in a degree program along with, qualifying following three conditions:

- Passed examination in each course of study in first attempt (i.e. students who improve D grades and repeat the courses of F grade will not be awarded with the medal).
- Obtained 70% or more marks in each semester in aggregate of all the courses.
- Completed all requirements for the degree program during the minimum prescribed period.

AWARD OF MEDALS IN POSTGRADUATE (MASTERS) PROGRAMME

Only a Gold Medal is awarded in each Master degree program to the student who fulfills the following conditions as well as the general conditions simultaneously.

Gold Medal

A gold medal may be awarded to a student who has Secured the highest CGPA in a degree program along with, qualifying following three conditions:

- Passed examination in each course of study in first attempt (i.e. students who improve D grades and repeat the courses of F grade will not be awarded with the medal).
- Obtained 70% or more marks in each course.
- Completed all requirements for the degree program during the minimum prescribed period.
- The thesis has been submitted to the Director, Advanced Studies within the prescribed period and is accepted by the examiner in the first attempt and/or the comprehensive examination has been passed in first attempt.

SPONSORED MEDAL

Any Sponsored medal will be awarded to the student who completes the degree with highest CGPA, in the minimum prescribed duration of the degree program, without any repetition, subject to good conduct and behavior, certified by the Dean/Director concerned.

Fee Structure 2026-27

		FEE PAYABLE ONE TIME (Rs.)				FEE PAYABLE EACH SEMESTER (Rs.)					
S.#	Discipline	Admission Fee	Security Fee	Donation to PRCS	Total (A)	Tuition Fee	University Fund	Other Fee	Examination Fee	Total (B)	Total (A&B)
1	Faculty of Agriculture										
	B.Sc.(Hons) Agriculture / BS-Forestry/ (Morning)	15,000	2,500	50	17,550	22,775	6,325	3,540	5,000	37,640	55,190
	B.SC(Hons) Agriculture/ BS-Forestry (Evening)	15,000	2,500	50	17,550	64,520	6,325	3,540	5,000	79,385	96,935
	M.Sc.(Hons) Agriculture./M.Phil. Forestry	17,000	2,500	100	19,600	38,280	10,560	9,680	5,000	63,520	83,120
	Ph.D. All Agriculture (Discipline)	20,000	2,500	100	22,600	48,240	16,680	9,680	5,000	79,600	102,200
2	Faculty of Veterinary & Animal Sciences										
	Livestock Assistant Diploma (LAD) (Morning) A	500	500	50	1050	10000	2130	0	2000	14130	15180
	DVM (Morning)	15,000	2,500	50	17,550	59,885	7,475	3,820	5,000	76,180	93,730
	DVM (Evening)	15,000	2,500	50	17,550	136,390	7,670	3,885	5,000	152,945	170,495
	BS-Poultry Sciences/BS-Animal Sciences/BS-Genetics-Session-A)	15,000	2,500	50	17,550	22,775	6,325	3,540	5,000	37,640	55,190
	M.Phil., Veterinary, Medical, Surgery, Animal, Nutrition, Livestock, Parasitology & Microbiology	17,000	2,500	100	19,600	36,935	10,120	9,360	5,000	61,415	81,015
	Ph.D. All FV@AS (Discipline)	20,000	2,500	100	22,600	48,240	16,680	9,680	5,000	79,600	102,200
3	Faculty of Sciences										
	BS-Botany/ Biology/ Zoology/ Stat/ Math/ Physics/ Chemistry/ Computational Biology/ BEMS	15,000	2,500	50	17,550	51,595	6,325	3,540	5,000	66,460	84,010
	BS-Stats (Data Science),(Data Analytics)/Math	15,000	2,500	50	17,550	59,885	7,475	3,820	5,000	76,180	93,730
	M.Phil., Botany ,Zoology ,Statistics, Mathematics	17,000	2,500	100	19,600	36,935	10,120	9,360	5,000	61,415	81,015
	Ph.D. Botany, Zoology	20,000	2,500	100	22,600	48,240	16,680	9,680	5,000	79,600	102,200
	BS-Lateral (2 Years Program)	15,000	2,500	50	17,550	51,595	6,325	3,540	5,000	66,460	84,010
4	Faculty of Social Sciences										
	BS-Economics/Digital Economics/BS-Anthropology/ BS-Sociology/English/Fine Arts/Public Health	15,000	2,500	50	17,550	53,668	6,613	3,610	5,000	68,890	86,440

		FEE PAYABLE ONE TIME (Rs.)				FEE PAYABLE EACH SEMESTER (Rs.)					
		Admission Fee	Security Fee	Donation to PRCS	Total (A)	Tuition Fee	University Fund	Other Fee	Examination Fee	Total (B)	Total (A&B)
	B.Ed.(Hons)/B.Ed. 1.5 Morning) B.Ed.(5th Semester)	15,000	2,500	50	17,550	23,538	6,613	3,610	5,000	38,760	56,310
	B.Ed.(Hons)/B.Ed. 1.5 Evening)	15,000	2,500	50	17,550	67,180	6,613	3,610	5,000	82,403	99,953
	M.Phil. Economics/Education/Anthropology/Sociology	17,000	2,500	100	19,600	38,280	10,560	9,680	5,000	63,520	83,120
	Ph.D. Economics/Education/Sociology/Anthropology	20,000	2,500	100	22,600	48,240	16,680	9,680	5,000	79,600	102,200
	BS-Lateral (2 Years Program)	15,000	2,500	50	17,550	53,668	6,613	3,610	5,000	68,890	86,440
5	Faculty of Agricultural Engineering & Technology										
	B.Sc. Agriculture Engineering/Climate Change & Adaptation/BS Electronics	15,000	2,500	50	17,550	36,480	6,900	3,680	5,000	52,060	69,610
	M.Sc. (Hons) Agriculture Engineering/Energy Systems/Precision Agriculture/Water Resource & Management	17,000	2,500	100	19,600	38,280	10,560	9,680	5,000	63,520	83,120
	Ph.D. Agriculture Engineering	20,000	2,500	100	22,600	48,240	16,680	9,680	5,000	79,600	102,200
6	University Institute of Geo Information & Earth Observation										
	BS(Remote Sensing & GIS)	15,000	2,500	50	17,550	55,740	6,900	3,680	5,000	71,320	88,870
	MS(Remote Sensing & GIS)	17,000	2,500	100	19,600	59,040	10,560	9,680	5,000	84,280	103,880
	Ph.D. (Remote Sensing & GIS)	20,000	2,500	100	22,600	48,240	16,680	9,680	5,000	79,600	102,200
7	University Institute of Biochemistry & Biotechnology										
	BS-Biochemistry/Microbiology/Biotechnology	15,000	2,500	50	17,550	55,740	6,900	3,680	5,000	71,320	88,870
	BS - MLT/Clinical Psychology, Aesthetics & Cosmetology	15,000	2,500	50	17,550	59,885	7,475	3,820	5,000	76,180	93,730
	M.Phil. Biochemistry/Biotechnology	17,000	2,500	100	19,600	39,625	11,000	10,000	5,000	65,625	85,225
	Ph.D. Biochemistry/Biotechnology	20,000	2,500	100	22,600	48,240	16,680	9,680	5,000	79,600	102,200
	BS-Lateral (2 Years Program)	15,000	2,500	50	17,550	53,668	6,613	3,610	5,000	68,890	86,440
8	University Institute of Soil & Environmental Science										
	BS-Environmental Sciences	15,000	2,500	50	17,550	25,125	7,188	3,750	5,000	41,063	58,613

		FEE PAYABLE ONE TIME (Rs.)				FEE PAYABLE EACH SEMESTER (Rs.)					
		Admission Fee	Security Fee	Donation to PRCS	Total (A)	Tuition Fee	University Fund	Other Fee	Examination Fee	Total (B)	Total (A&B)
	M.Phil. Environmental Sciences	17,000	2,500	100	19,600	39,625	11,000	10,000	5,000	65,625	85,225
	Ph.D. Environmental Sciences	20,000	2,500	100	22,600	48,240	16,680	9,680	5,000	79,600	102,200
9	Institute of Food and Nutritional Sciences										
	BS-HND/FST/FSQM (Morning)	15,000	2,500	50	17,550	53,668	6,613	3,610	5,000	68,890	86,440
	BS-HND/FST/FSQM (Evening)	15,000	2,500	50	17,550	59,885	7,475	3,820	5,000	76,180	93,730
	M.Sc. (Hons.) Food Safety/HND	17,000	2,500	100	19,600	39,625	11,000	10,000	5,000	65,625	85,225
	Ph.D. Food Technology	20,000	2,500	100	22,600	48,240	16,680	9,680	5,000	79,600	102,200
10	University Institute of Management Sciences (UIMS)										
	BBA (Hons.)	20,000	2,500	50	22,550	38,430	8,568	20,055	5,000	72,053	94,603
	BS (Accounting & Finance)/Business Analytics	20,000	2,500	50	22,550	42,660	9,685	22,410	5,000	79,755	102,305
	MBA	25,000	2,500	100	27,600	57,405	8,165	24,425	5,000	94,995	122,595
	MS Management Sciences / Ph.D. (Mgt.Sc)	25,000	2,500	100	27,600	Credit Hour fee as per scheme of study at Sr.13				B	(A+B)
	BBA-Lateral (2 Years Program)	20,000	2,500	50	22,550	38,430	8,568	20,055	5,000	72,053	94,603
11	University Institute of Information & Technology (UIIT)										
	BS(CS)/ BET (Cyber Security)/BET (Information)	20,000	2,500	50	22,550	65,080	9,940	20,480	5,000	100,500	123,050
	MS (CS) / Ph.D. (CS)	25,000	2,500	100	27,600					B	(A+B)
12	University Institute of Hydroponic Agriculture										
	One Year PGD IHA	2,000	2,500	50	4,550	16,160	-	-	3,000	19,160	23,710
	6 Month PGD IHA	1,500	-	50	1,550	15,410	-	-	3,000	18,410	19,960
13	MS(CS)/Mgt Sc)/Ph.D.(CS) (Mgt.Sc.) Fee payable each semester (B) will be charged on the basis of Credit Hours enrolled Rs.8,800/- will be charged for one Credit hour (e.g.9 Credit Hours fee will be Rs.79,200/- Plus Rs.1000/- fee payable each semester. Rs.50 will be charged from Ph.D. Student as Baran charges in each semester										

❖ Fee may be increased annually in accordance with University policy.

One Time Fees (Rs.)			Payable Each Semester (Rs.)		Total (A&B)
Hostel Charges	Hostel Security (Refundable)	Total (A)	Hostel Charges	Total (B)	
10,000	3,300	13,300	20,000	20,000	33,300
Summer Break Charges @ Rs.10,000 (Applicable only to those boarders of Spring Semester who are allowed to stay during summer break) Summer Fee @ Rs. 10,000 per subject					

Sub Campus Khushab Fee Structure 2026-27

S#	FEE PAYABLE ONE TIME (Rs.)					FEE PAYABLE EACH SEMESTER (Rs.)					
	Discipline	Admission Fee	Proposed	Donation to PRCS	Total (A)	Tuition Fee	University Fund	Other Fee	Examination fee	Total (B)	Total (A&B)
1	Livestock Assistant Diploma (LAD) (Morning) A	500	500	50	1,050	10,000	2,130	-	2,000	14,130	15,180
2	Livestock Assistant Diploma (LAD) (Evening) B	-	-	-	-	25,000	-	-	-	25,000	25,000

EE PAYABLE ONE TIME (Rs.)		PAYABLE EACH SEMESTER (Rs.)		
Hostel Security Refundable	Total (A)	Hostel Charges	Total (B)	Total (A+B)
3,000	3,000	15,000	15,000	18,000
Summer Break Charges for Summer Students @ Rs.10,000 Applicable only to those boarders of Spring Semester who are allowed to stay during summer break				
Summer Fee @ Rs. 10,000 per subject				

Foreign Student Fee 2026-27		
Sr No.	Program/Discipline	US Dollar
1	B.Sc (Hons.) Agriculture/DVM/BS(Forestry)	US\$ 1450
2	BBA(Hons), BS(Accounting & Finance), BS (Business Analytics)	US\$ 2820
3	BS(CS),BET (Information/Cyber Security)	US\$ 2650
4	M.Sc/M.Sc(Hons) Agriculture/Veterinary/ Science/M.Phil (Sciences/Social Sciences)	US\$ 1450
5	MBA	US\$ 2650
6	MS (CS)	US\$ 2650
7	Ph.D.(All degree programs)	US\$ 2825
8	Verification fee for each of: Degree, Diploma, Certificate and transcript (DMC) etc., (R/O Notification No. 2010)	US\$ 28

Other Fee w.e.f. Fall 2026	
Fee Detail	Fee (Rs.)
Late Enrollment Fee	
(I) Upto 3 Days	2,000
(ii) 4 to 7 days	3,900
(iii) Re-Admission fee for continue the semester after ceasing in semester	4,800
Enrollment fee after minimum residency period (Thesis)	
M.Sc. (Hons.)/M.Phil./MS	6,600

Ph.D	13,200
Verification fee for each of: Degree, Diploma, Certificate and Transcript (DMC) etc, (Except Government Department and Armed Force of Pakistan)	1,300
Provisional Certificate (within One Week)	600
Provisional Certificate (within 24 Hours)	1,300
Degree Fee	5,000
Urgent Degree fee	15,400
Duplicate Degree Fee	13,200
Degree Completion Certificate/Bonafide Certificate Fee/English Proficiency Certificate	550
Fee Deposit Certificate	350
Diploma Fee	2,900
Duplicate Diploma Fee	4,000
Online/Electronic Document Forwarding Fee	550
Per Course Enrollment Fee	
Regular Students	
Postgraduate	3,000
Undergraduate	2,650
Ph.D	4,300
Self-Supporting Students	
Postgraduate	11,450
Undergraduate	6,600
Other Charges	
Duplicate Registration Card Fee	600
Duplicate Id Card Fee	770
Migration Certificate Fee	2,900
Duplicate Migration Certificate Fee	5,800
Subsidized Fee for University Employee's Children BS 1 To 15 per semester alongwith one time university security (Security Refundable)	3,000
Subsidized Fee for University Employees BS 1 To 15 per semester fee alongwith one time university security (Security Refundable)	4,300
Subsidized Fee for University Employees and Employee's Children BS 17 and above per semester alongwith one time university security (Security Refundable)	7,800

Transcript DMC Fee per Semester	
Within One Week	480
Within 24 Hours	770
Recounting of Answer Book Per Course	4,000
Per Course Enrollment Fee Within Minimum Residency Period	
Per Course Enrollment Fee (for (F) Fail Subject maximum upto 2 subject) with regular semester during minimum residency period	3,700
Per Semester Discontinuation Fee for Undergraduate Degree Programs	
Per Semester Discontinuation Fee for Undergraduate Degree Programs	2,400
Per Semester Late Discontinuation Fee for Undergraduate Degree Programs in addition to normal Discontinuation fee	3,700

National Fee Refund Policy	
100% fee refund	Upto 10 th day of commencement of classes
80% fee refund	Upto 15 th day of commencement of classes
60% fee refund	Upto 20 th day of commencement of classes
50% fee refund	Upto 30 th day of commencement of classes
No Refund	31 st day onwards of commencement of classes
Components of Fee Refund	
Security/Deposit Fee	100% Refund
Admission Fee	Nonrefundable
Examination Fee	100% Refund
Fee for Curricular/ Co-Curricular Activities	The Curricular/co-curricular, extra-curricular, fee is 100% refundable minus (-) the days a student has availed of that activity(es).
Laboratory Fee	The laboratory fee is 100% refundable minus (-) the days a student has availed of that facility(es).
Library Fee	The library/digital library fee is completely refundable.
Transport Fee	The transport fee is 100% refundable minus (-) the days a student has availed of that facility(es).
Utilities Fee	The Utilities fee is 100% refundable minus (-) the days a student has availed of that facility(es).
Tuition Fee	As mentioned above

Directorate of Quality Enhancement

The Quality Enhancement Cell (QEC) was established at the university in February 2007 with the objective of significant enhancement of quality in higher learning and international compatibility. The major functions of the QEC 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 degree are enhanced and safeguarded.
- Define lucid and explicit standards as point of reference to reviews to be carried out. It should also help the employees to know as to what they could expect from candidates.
- Develop qualification framework by setting out the attributes and abilities 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 standards 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.

Vision

"To develop the Pir Mehr Ali Shah Arid Agriculture University into a Centre of Excellence by providing an outstanding educational environment with emphasis on arid/rainfed agriculture and related professions"

Mission

Our mission is:

- To achieve excellence in teaching and research through continuous quality enhancement by monitoring and reviewing the progress
- To form a well-organized scientific infrastructure for teaching and high-tech research for the development of dry land regions of the country
- To produce graduates with adequate training for high professional achievements to enhance the scientific vision for the barani areas.

Directorate of Advanced Studies

The Directorate of Advance Studies is always striving for excellence to promote quality research in the university following the dynamic and enthusiastic approach of Worthy Vice Chancellor Prof. Dr. Qamar-uz-Zaman to uplift the research at the level of modern world. To accomplish this objective following key initiatives have been taken by the Directorate of Advanced Studies:

- The post graduate admission policy is designed by ensuring the availability of sufficient resources with the research Adviser.
- Post-Graduate Research evaluation committee has been formulated to facilitate the research scholars
- Research coordinators have been appointed in each department to facilitate the young scholars at different steps during their stay at the university.
- Maintenance of lab books is being strictly monitored to ensure the generation of quality research and its implications
- Regular meeting of the supervisory committee has been given a prime importance for continues guidance and to monitor the progress of research students
- Ethical and proprietary prospects of the research have been given prime importance
- Procedures are designed and implemented for synopsis and thesis evaluation
- Digitalization of Postgraduate Student records
- A comprehensive Seminar series has been designed for the training and Capacity Building of young faculty members and research Scholars.

DAS Objectives

The objectives of Advanced Studied and the Research Board are to:

- advise the authorities on all matters connected with the promotion of advanced studies, publication and research in the University.
- consider and report to the authorities on the institution of the research degree in the university.
- propose regulations regarding the award of research degrees.
- appoint supervisors for research students and determine the subjects of their thesis.
- recommend panels of names of paper setters and examiners for research thesis.
- and perform such other functions as may be prescribed by the statues.

Directorate of Planning & Development

The Directorate of Planning and Development serves as the backbone of an organization, playing a vital role in its growth and development. PMAS-Arid Agriculture University Rawalpindi, established in 1994, initially lacked a separate Planning & Development Directorate; instead, these responsibilities were housed within the Directorate of Research & Planning. Recognizing the university's need for dedicated attention to development and growth, a separate Directorate of Planning & Development was established in 2015 under the direct supervision and control of the Vice Chancellor. The graph below illustrates the funding received from various agencies for development over the years.



Functions

The main functions of the Directorate of Planning & Development are:

Identification and need assessment of the developmental projects of the University.

- Preparation and formulation of the developmental projects /proposals on PC-I Proforma with the consultation of concerned stakeholders.
- Guidance and Facilitation of the project staff in preparation of Cash/Work Plan and Quarterly Progress Reports of Developmental projects.
- Maintaining liaison and coordination with the Provincial Government and Higher Education Commission with a view to speed up execution of the approved projects.
- The compilation of Public Sector Development Program (PSDP)
- The appraisal of proposals for new development schemes.
- Guidance and Facilitation of the project staff in preparation of Project Completion Reports.

DIRECTORATE OF FINANCIAL ASSISTANCE AND UNIVERSITY ADVANCEMENT

Director of FA&UA

Ch. Waqas Ahmed



The University Management is committed to provide conducive learning environment to its students during their academic pursuit and to cater their interest out of academic life. Our pursuit in extension of gizmos and gadgets of cutting-edge technology to our academia has necessitated a close collaboration/linkage with different stakeholders for mutual benefits.

Directorate of Financial Assistance and University Advancement has been entrusted with a spectrum of responsibilities pertaining to resource & consultation services to its students/graduates. SRC is a central point of students counseling - an effort to match the in-house talent with needs of the market depending upon their academic and non-academic strengths and weaknesses. In addition to regulating university financial resources meant for deserving and meritorious students, acquisition of external resources for students' welfare is the priority agenda of SRC. We strongly believe that transition from education to employment is a massive leap for most young people; therefore, SRC is struggling to pave the linkage among the students/graduates; prospective employers and scholarships benefactors. Alumni are recognized as ambassadors of Alma Mater and are a great source of strength for graduates' welfare and university advancement. Therefore; SRC is making its best efforts to ameliorate social interaction among graduates by re-organizing Alumni. Prompt dissemination of information regarding different jobs, scholarships, skill enhancement training facilities, workshops, seminars etc. and other events/activities at the campus to the Registered Graduates at their doorstep through electronic mail is the regular feature of SRC. This multi-dimensional approach of SRC to beatify all its stakeholders requires teamwork and well wishes to emulate this mission.



Objectives

1. Scholarships & Financial Assistance Management

- i. Manage the financial resources meant for student's welfare.
- ii. Liaison with donor agencies for students' scholarships, financial assistance, loans etc.

2. Students Counseling

- i. Psychoanalysis of students during their academic pursuits keeping in view their academic and non academic strengths and weakness to match the in-house talent with needs of the market (Selection of subjects - background, conduct, interest, place of living, anticipated place of employment, nature of employment, social factors etc.).
- ii. Actuation/motivation of students towards acquisition of required traits and polishing their in-born traits to meet the demand of business/research environment. Inculcating the importance of human resources, professional training, managerial skills through human organization models, employee loyalty & national expectations through group discussions and seminars
- iii. Recommendation of skill enhancement and further studies

3. Placement Assistance

- i. Develop linkages among prospective employers and the students/graduates.
- ii. Receipt of vacancy announcement from prospective employers and its dissemination to the graduates through electronic mail.
- 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. Seek vacation employment contracts to meet the financial hardships of the students.
- v. Serve selection center and confidential interview facilities for the public/private organizations on cost fee bases.
- vi. Arrangements of the visits of the delegates/Prospective employers and their discussions with faculty and students of relevant departments regarding the emerging needs and training of the students in same direction.
- vii. Arrangements for inculcating the graduate the techniques to develop CV, impart interview and communication skills, etc.

4. Alumni Organization

- i. Compilation of graduates' database according to their subjects, sharing and dissemination of news about employment opportunities/scholarships, events at the campus etc. electronically.
- ii. Organizing and strengthening the Alumni.

University Admission & Student Facilitation Center

The University Admission & Student Facilitation Center of Pir Mehr Ali Shah Arid Agriculture University Rawalpindi is responsible for facilitating prospective and enrolled students in matters relating to admissions, academic guidance and student support services. The major responsibilities of the Center include:

- Providing guidance and information regarding admission policies, eligibility criteria, merit determination, fee structure and academic programmes offered by the University.
- Facilitating applicants in the submission of online admission applications and resolution of admission-related queries.
- Assisting students in verification of documents and completion of admission formalities.



- Coordinating with Faculties, Institutes, Departments, and administrative offices regarding admission processes and student matters.
- Issuing and disseminating admission schedules, merit lists, notices, and other relevant information.
- Providing support and counseling services to students regarding academic and administrative issues.
- Facilitating students in matters related to scholarships, financial assistance, and student welfare services.
- Maintaining student records and ensuring proper communication between students and the University administration.
- Assisting international, overseas, and newly admitted students in orientation and settlement matters.
- Addressing complaints, grievances, and queries of students in an efficient and timely manner.
- Promoting a student-friendly environment by ensuring effective facilitation and guidance services.

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 the available space 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 services provide 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.

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 50,480 books, textbooks, reference books, theses, periodicals and research journals etc. The library concerned is equipped with modern software, LMS (Library Management System) for Library automation. The Online Public Access Catalogue (OPAC) is available through Q.Zaman E-library.

The full text (Pdf) Theses are also available from July 2019 to date, for the benefit of faculty and students concerned. The Main library has also established a separate Q.Zaman E-Library that provides free full text (E-Books and E-Journals) regarding different disciplines for the users/Campus community.

The Library also extends facilities of photocopying service of different types of scientific papers. Moreover, departmental libraries have also been maintained to provide easy access to most of text and reference books as well. 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 from digital services through internet.

The PMAS-AAUR Library is vital to the education mission of University community. Overall objective of the library is to select, organize, and maintain print and electronic resources that support the curriculum and information needs of University academic community.

Working in partnership with faculty, staff and students, library provides convenient access to quality information resources, and an environment that encourages study and personal growth. Library also provides information services which are customized to individual needs, and which recognize their information requirements.

Library's environment, which attracts users and clientele to spend time and study in relaxing and conducive environment. Study carrels and reading halls provide excellent environment for individual and group study. The library plays a vital role in increasing research output by helping faculty and students in their research work through its automated and organized information resources. i.e. International reputed Research Journals. Gathering information, organizing it in such a way that it can be retrieved effectively, making it accessible, and disseminating this information to the relevant users are the major functions of the library. The library is equipped with most modern technologies like RFID System, Library Management System and HEC Digital Library by providing latest research material of different kinds on full text basis.

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.

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.

Accommodation Facility

The university extends accommodation facilities to male and female students. For this purpose, two boys hostels accommodating around 500 students and two girls hostels which can provide accommodation to around 500 female students are at the campus.

Cafeteria

Campus houses a purposefully erected cafeteria that caters for the needs of students. It has ample space to organize student functions. University makes sure that the food items served at cafeteria are fresh, nutritious as well as economical.

Transport Facility

Although University campus is located at an accessible place right at main Murree Road, transport facilities are available for pick and drop facility and study tours of students.

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