

AIOU

BS Prospectus

SPRING 2017

BS PHYSICS

BS STATISTICS

BS CHEMISTRY

BS MATHEMATICS

BS MICROBIOLOGY

BS ENVIRONMENTAL SCIENCE



Allama Iqbal Open University, Islamabad

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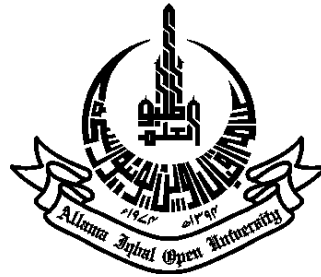
PROSPECTUS

OF

BS Programs

For

SEMESTER: SPRING, 2017



Allama Iqbal Open University, Islamabad

Price Rs.500/-

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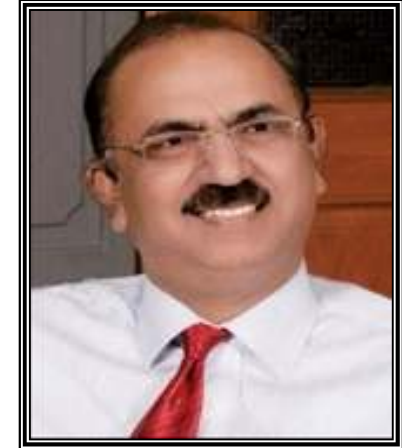
Vice-Chancellor's Message

Dear Student,

السلام عليكم

Welcome to Allama Iqbal Open University, the first Distance Education University in South Asia, that caters to the educational needs of 1.3 million students to enable them to study at their own place, at their own pace and at their own convenience. The University goes to the doorsteps of the students, irrespective of the distance and location of students. One can become a student of this university at any age as we consider education a life-long and continuous process. The University has a vast menu of educational programs at different levels, starting from basic literacy programs to the PhD programs. The courses are regularly revised in order to keep them contemporary, relevant, and internationally compatible. Self explanatory course material helps the students to comprehend the course concepts without physical presence of the teacher. The self-assessment activities, included in the books, help ensure the acquisition of learning outcomes. This university offers maximum number of specializations at post-graduate level through four faculties - Faculty of Arabic and Islamic Studies, Faculty of Education, Faculty of Sciences, and Faculty of Social Sciences and Humanities. The faculty members at the university and a huge network of tutors, resource persons, specialists and experts make sure that the courses being offered in these programs enable the students to become independent learners and critical thinkers. Post-graduate level studies invite you to critically examine what has already been done in your field of interest and then research to offer innovations.

I welcome you to the postgraduate studies at AIOU and wish you a challenging yet successful journey ahead.



(Prof. Dr. Shahid Sddiqui)
Vice Chancellor, AIOU

1. ALLAMA IQBAL OPEN UNIVERSITY

Allama Iqbal Open University, a mega university was established in 1974 under an Act of Parliament. The main campus of the university is situated in sector H-8, Islamabad. It was the second open university of the world and the first of its kind in Asia and Africa. The aim of establishing AIOU was to provide affordable and accessible education through distance learning at the door-steps to those people who could not continue their education journey through formal system of education. The University (AIOU) operates on semester system and admits students in Autumn and Spring semesters. Under graduate admissions are offered in both the semesters where-as post graduates are offered once a year. The enrolled students are given course books specially prepared by the university on self instructional principles. However at post graduate level reprints of foreign books alongwith allied material and university prepared study guides help students to polish their skills.

At present, the AIOU is offering programs from matric to PhD level in diverse disciplines comprised of four faculties. The university has established study centres

across the country where distance education students are provided necessary guidance by their respective tutors. Moreover, the university has established full-time study centres wherein the students of MBA (IT), MBA (Banking and Finance), BS (CS), MSc/BS Chemistry, MSc/BS Microbiology etc. are being provided instruction, guidance and counselling through face-to-face education. AIOU is also offering four years under-graduate degrees.

Apart from curricular and extra-curricular activities during the academic year, the AIOU and its regional centres actively participate in the co-curricular activities by arranging educational and literary seminars, workshops and conferences, attended not only by the students and faculties of the university but also by the renowned dignitaries and scholars. For the science students and the research scholars, a science complex has been built where they use the latest equipment of international standard for experiments and research. To meet the present day challenges, internet facility is also available in the student hostel and the Central Library where computers have been provided to enable students to access latest information available through open source databases.

FACULTY OF SCIENCES

Faculty of Sciences forms an important and integral part of the university. Since its establishment in 1982 with five teaching departments, it has undergone major development changes. It now comprises nine teaching and research departments, which are offering courses at the undergraduate and postgraduate levels to more than ten thousands students. The Faculty operates under the basic guidelines of the University Act and on “Education for All as Convenient” basis so that maximum students get benefit from its academic programs and educational facilities. This principle has necessitated some structural changes in the non-formal mode, particularly at the postgraduate level, in the offering of theory courses and practical lab work. This conceptual adjustment has been quite successful and many of its in-service students are benefiting from the postgraduate study programs. Improvement in qualifications for a better life is a right of everyone and the Faculty’s programs meet this challenge by offering opportunities to all. In particular a significant number of beneficiaries are those who cannot afford education in formal institutions due to a variety of reasons.

Realizing the importance of science education and growing needs of the Faculty of Sciences, the University has completed a building, the Research Complex, at a cost of Rs 35 million. The Research Complex now accommodates departments of Agricultural Sciences, Biology, Chemistry, Environmental Sciences, Home & Health Sciences, Mathematics, Statistics and Physics. These departments are running a variety of postgraduate technical, scientific and

professional programs successfully. The Research Complex also has a Computer Lab with Internet and On-line Library Facility for literature survey, Seminar Room, Lecture Hall and Library. In addition, there are many labs for practical work, teaching and research, and instrumentation labs for analysis. The University is developing these labs through its own resources. The Faculty of Sciences is fortunate to have Prof. Dr. Shahid Siddiqui as the University’s Vice-chancellor, who has given personal attention to the development of the Faculty of Sciences by providing generous amount of funds and valuable guidance.

Two Model labs have been developed in the Research Complex with the assistance of the Higher Education Commission to meet the training needs of science teachers. This development is significant for training of teachers since under the new educational policy four-year BS program has started in undergraduate educational institutions.

More than fifty highly qualified full-time faculty members are on the roll of the Faculty of Sciences. Their role in the planning, designing and development of courses to meet student’s needs is vital. Faculty members also engage in imparting and supervising of instructions so that high standards are maintained. In addition highly qualified and experienced professors are also engaged on contractual basis or as part time instructors for postgraduate study programs. The Faculty is also offering academic positions under the tenure-track system to attract the best minds in scientific and technological fields.

Research is an integral part of the postgraduate study programs leading to MSc, M Phil and PhD degrees in Agricultural Sciences, Chemistry, Computer Sciences, Home and Health Sciences, Physics, Mathematics and Statistics. Rules and regulations governing the postgraduate study programs are those approved by the Higher Education Commission (HEC).

The Faculty has launched BS program in Chemistry and Microbiology from semester Spring 2009. The four-year BS program is structured according to the recent policies of the Higher Education Commission for the improvement of the standard of education so as to bring it at par with the international standards.

DEPARTMENT OF BIOLOGY AND ENVIRONMENTAL SCIENCES

The Department of Biology was established in 1998 with a mission to serve those who could not continue their formal education in various disciplines of Biological Sciences due to economic or job constraints and the production of well-trained manpower to serve various sectors of the country like education and research for the attainment of the goal of self-sufficiency.

According to its vision the Department of Biology and Environmental Sciences is striving hard to uplift the teaching standards and provide a congenial environment for research in the field of Biology and Environment. The Department always seeks to introduce more disciplines at graduate and postgraduate levels as per demand of the society, so as to keep its graduates

well informed with the recent advances in Biological Sciences. This will help to produce well-trained manpower meant to serve science both at national and International levels.

Currently the Department is offering MSc and BS Microbiology and Environmental Sciences Programmes. The four years BS Program in Microbiology has been launched from the semester Spring 2009 and from Spring 2015 the Department is also offering MSc Programme in Microbiology. From Spring 2016 the department is also offering BS Environmental Sciences program. In addition to that, Department is offering some courses from basic to post graduate levels for main pool of AIOU's general programmes.

The Department of Biology and Environmental Sciences has collaboration with members of other Universities of Pakistan and Post Graduate institutions for its Biological Science courses/programmes. One multidisciplinary laboratory in block No. 4 for FSc students was established in 1999 and two labs in Science Block were established for students of BS Microbiology during 2008 to cater for their Practical/Research needs. There is also a lab in the Science Block for BS Environmental Sciences program.

The Department of Biology and Environmental Sciences is planning to launch MSc programme in Botany in the near future. Keeping in view of the intended programme expansion, the upgradation of the Departmental Labs is also underway to cater for practical and research needs of the above mentioned programs.

BS in Microbiology (4 Years)

Introduction

The Department of Biology is well aware of the fact that this is the era of scientific revolutions. Microbiology, which is parallel to molecular biology as well as biotechnology, is an emerging scientific field. Lots of work is being done at international level but Pakistan is still behind in this field. The trained manpower well versed with laboratory techniques and disease diagnostic facilities is limited in the country.

Keeping this thing in view, the Department of Biology has launched four years BS Program in Microbiology from the semester Spring, 2009.

This Program is designed to:

- Provide skilled laboratory personnel for catering general public needs.
- Provide research atmosphere for the support of laboratory facilities.

Objectives:

After completing this Program, students will acquire the necessary knowledge based in the area of Bio-medical sciences, which is very important to diagnose the infectious diseases as well as epidemics.

The overall objective of this program is **to promote education of Applied/Life Sciences in the country.**

The specific objectives are:

1. To provide human resources/skilled Microbiological technologists for catering the needs of medical laboratories in hospitals and research institutes.
2. To provide foundation for higher studies in Microbiological Sciences.
3. To create awareness about the importance of this science for general public health.

Target groups

FSc (Pre-Medical) OR Equivalent A level qualification with biology as major subject.

Launching scheme

In the pilot phase this program is being offered in Islamabad/Rawalpindi regions only. Face to face classes will be scheduled at the main campus. After that this program may be launched at other regional campuses depending on the availability of laboratory facilities.

Admission procedure

1. Admission to fresh students will be offered once a year, in Spring Semester only.
2. Applications for admission will be invited through National press.
3. Applications on prescribed admission form will be submitted to:-

The Chairperson
Department of Biology & Environmental Sciences
Allama Iqbal Open University,
Sector H-8, Islamabad

4. Selection of candidates will be made strictly on the basis of merit.
5. Only selected candidates will be informed about their admission.
6. The selected candidates will be required to pay the dues.

Note

Only selected candidates will be asked to deposit the prescribed fee. The fee should not be submitted before the confirmation of the admission. The deposited fee will not be refundable or adjustable for future admission. The document showing fee deposit must be provided in the office of

**Chairperson, Department of Biology,
Allama Iqbal Open University,
H-8 Sector,
Islamabad.**

In case of noncompliance, it would be assumed that fee has not been deposited and the student is not anymore interested in getting admission. The department may invite a candidate in waiting list for admission against the vacant seat.

Eligibility/selection criterion

FSc (Pre-Medical) OR Equivalent A level qualification with biology as major subject.

Medium of Instruction

The medium of instruction shall be English

Study Material

Reprinted or compiled course books will be provided by the University. However, the students are advised to consult other reference books recommended by the department.

Mode of Teaching

- University will provide face to face teaching to the students.
- The schedule of classes and dates of submission of assignments will be handed over along with study material.

Assessment and Evaluation

For each course, the registered students will be assessed on the basis of the followings:

- a) Continuous assessment through written assignments/tests or Workshop or practical activities.
 - i) For each discipline specific face to face course the marks obtained by each student in the two written assignments will constitute 2/3 part of the continuous assessment. A student has to obtain a minimum of 50% marks in the two assignments collectively in order to pass this component.
 - ii) For each discipline specific face to face course the marks obtained by each student in the practical workshop will constitute 1/3 part of the continuous assessment. A student has to obtain a minimum of 50% marks in the practical workshop individually in order to pass this component.
- b) Final examinations: three hours written examination for each course with 50% passing marks.

Note:-

The continuous assessment and final examination will contribute 30% and 70% to the student's final course grade, respectively. For successful completion of each course the student will be required to qualify each of the two above components separately.

Assignments/Tests

Handwritten Assignments to be submitted by the students shall be of literature and activity based nature. The students will submit the assignments to their teacher who will return the same after assessment with necessary academic guidance.

Degree requirement:

In order to become eligible for the award of BS in Microbiology, the students will have to earn a total of **130** credit hours including six credit hours for research project.

d) Scheme of Studies:**Semester Wise Breakup of Courses BS in Microbiology****Semester-1**

Sr. No.	Course	Credit Hours	Course Code
1.	Fundamentals of Microbiology	4(3+1)	4403
2.	Cell Biology, Genetics and Evolution	4(3+1)	4401
3.	Inorganic chemistry	4(3+1)	4421
4.	Pre-Calculus	3	4431
5.	English-I (ODL)	3	1423
Total credits		18	

Semester-2

Sr. No.	Course	Credit Hours	Course Code
1	Environmental Microbiology	4(3+1)	4445
2.	Diversity of Plants	4(3+1)	4402
3	Organic Chemistry	4(3+1)	4422
4	Calculus-I	3	4432
5	English-II (ODL)	3	1424
Total credits		18	

Semester-3

Sr. No.	Course	Credit Hours	Course Code
1	Diversity of Animals	4(3+1)	4469
2	Introduction to Environmental Sci.	4(3+1)	4441
3	Pakistan Studies (ODL)	3	417
4	English-III (ODL)	3	1425
Total credits		14	

Semester-4

Sr. No.	Course	Credit Hours	Course Code
1	Biotechnology	4(3+1)	4412
2	Public Relations	3	451
3	Islamic Studies / Ethics	3	416
4	Fundamentals of Computer	4(3+1)	3400
5	Research Methods	4	1578
Total credits		18	

Semester-5

Sr. No.	Course	Credit Hours	Code
1	Introductory Biochemistry	4(3+1)	4481
2	Biostatistics	3	4482
3	Microbial Genetics	4(3+1)	4407
4	Virology	4(3+1)	4408
Total credits		15	

Semester-6

Sr. No.	Course	Credit Hours	Code
1	Molecular Biology	4(3+1)	4419
2	Molecular Mechanism of Antimicrobial Drugs	4(3+1)	4416
3	Food and Dairy Microbiology	4(3+1)	4411
4	Microbial Anatomy and Physiology	4(3+1)	4405
Total credits		16	

Semester-7

Sr. No.	Course	Credit Hours	Code
1	Immunology	4(3+1)	4415
2	Medical Microbiology	4(3+1)	4413
3	Industrial Microbiology	4(3+1)	4420
4	Soil microbiology	4(3+1)	4410
Total credits		16	

Semester-8

Sr. No.	Course	Credit Hours	Code
1	Epidemiology	4(3+1)	4417
2	Research Project	6	4418
3	Genetic Engineering	4(3+1)	4414
4	Seminar	1	4400
Total credits		15	

Total credits=18+18+14+18+15+16+16+15=130

Fee Tariff:

Item	Rate
Registration fee	Rs.100/-
Admission fee	Rs.500/-
Technology fee	Rs.100/-
Per 4 credit hours course fee: Rs.6430	Rs.6430x3 =Rs.19290/-
Per 3 credit hours course fee: Rs.3230	Rs.3230/-
English-I (ODL)	Rs.460/-
Total	Rs.23680/-

The fee structure for the remaining semesters will be provided in due course of time.

BS in Environmental Science (4 years)

Criteria for Admission

Criteria for admission in first semester of the 4-year program

- a. FSc (pre medical or pre-engineering) or equivalent qualification with minimum second division (at least 45% marks) is the pre-requisite for admission in BS Environmental Science.
- b. Foreign certificate/ degree holders will need to produce equivalence certificate from IBCC to seek admission in semester I and from HEC for admission in semester V.
- c. Only the prescribed printed admission forms duly filled along with the attested copies of academic documents, certificates and DMCs are required to be sent to the Chairperson, Department of Environmental Science, AIOU, H-8, Islamabad

Merit Determination

Merit will be determined as per following weightage

FSc	60%
Marks in Science Subjects	20%
Matriculation	20%

Only selected candidates will be informed to deposit the prescribed fee. Those selected on merit will be informed to deposit the fee. The Fee will be deposited only on receipt of selection/admission letter from the university. The department will also prepare waiting list for admission and the department will invite candidates from the waiting list for admission against the vacant seat.

Duration and Structure

In order to maintain the equivalence of duration of study at international level, the Bachelors degree programme will comprise of 4-year (8 Semester). The program consists of 132 credit hours including compulsory courses of English, Islamic Studies and Pakistan Studies.

Medium of Instruction

The Medium of Instructions for BS Environmental Science is English for all the courses except Islamic Studies and Pakistan Studies which will be offered in urdu for this program.

Study System

In 4-year BS Environmental Science Programme regular classes for all science courses and practical work will be conducted at AIOU Main Campus. Minimum 70 % attendance is required in science subjects as per AIOU rules. However, compulsory courses i.e. Pakistan Studies, Islamic studies and English will be offered on distance learning mode.

- **Teaching Material:** Reprinted and compiled course books recommended by the department will be provided by the university. In addition the student will be advised to consult other reference books for further reading.
- **Class Work:** Three hour class work/lectures per week for a (3+0) credit hour course will be compulsory for sixteen weeks. The credit hours are specified against each course in the Layout of Program.
- **Lab Work:** Three hour lab (laboratory) work/practical per week for a (3+1) credit hour course will be compulsory for sixteen weeks. The practical work consist of lab oriented practicals, field visits and or any other activity as per requirement.

The Assessment System

As per AIOU practice 30% weightage will be given to continuous assessment (class assignments, class tests, lab work, field visit and practical examination) whereas, 70% weightage will be given to the final examination.

Continuous assessment:

Continuous assessment will be based on class test and lab work. The pass percentage in the lab assignments/field visit/class test will be 50%. The weightage of lab assignment, field visits and class test in the final result will be 30%.

Final Examination:

Final examination of 100 marks for each theory course will be conducted at the end of semester. The pass percentage in final examination will be 50% and its weightage in the final result will be 70%. Student will have to successfully complete each component independently to pass a course.

Program Offering

The Program will start as a pilot phase so as to provide adequate, laboratory facilities. A group of 25 students will be selected initially keeping in view the available space, faculty and lab facilities.

The Grading System

In BS Environmental Science program student have to secure at least 50% marks in Lab and field assignment or class test and final examination each individually and 50% marks in aggregate to pass the program.

Degree Requirement

In order to become eligible for the award of degree of BSES the candidate will have to successfully pass all the courses within a minimum period of 4 year (8 semesters). The student will have to earn a total of 132 credit hours which includes 6 credit hours for the research project.

Semester Wise Distribution of Course

The program has been designed in accordance with HEC guidelines for the 4-year BS in Science program. The program layout for the 4-year BS is given below. The credit hours have also been specified

Semester 1st

S. No.	Course	Credit Hours	Code
1	Cell Biology, Genetics and Evolution	4(3+1)	4401
2	Inorganic Chemistry	4(3+1)	4421
3	Introduction to Environmental Science	4(3+1)	4441
4	Pre-Calculus	3	4431
5	English I (ODL)	3	1423
		18	

Semester 2nd

S. No.	Course	Credit Hours	Code
1	Plant Diversity	4(3+1)	4402
2	Organic Chemistry	4(3+1)	4422
3	Environmental Pollution	4(3+1)	4442
4	Calculus II	3	4433
5	English II (ODL)	3	1424
		18	

Semester 3rd

S. No.	Course	Credit Hours	Code
1	Diversity of Animals	4(3+1)	4469
2	Environmental Chemistry	4(3+1)	4443
3	Public Relations	3	451
4	Pakistan Studies (ODL)	3	0417
5	English III	3	1425
		17	

Semester 4th

S. No.	Course	Credit Hours	Code
1	Principles of Animal Life	4(3+1)	4468
2	Research Methods	4	1578
3	Environmental Microbiology	4(3+1)	4445
4	Fundamentals of Computer	4(3+1)	3400
5	Islamic Studies / Ethics* (ODL)	3	0416/ 0418
		19	

*** For Non-Muslims Only**

Semester 5th

S. No.	Course	Credit Hours	Code
1	Physics of the Environment	4(3+1)	4467
2	Environmental Biology	4(3+1)	4446
3	Biostatistics	3	4482
4	Energy and Environment	3	4448
5	Environmental Management	3	4449
		17	

Semester 6th

S. No.	Course	Credit Hours	Code
1	Environmental Impact Assessment	4(3+1)	4450
2	Solid Waste Management	4(3+1)	4451
3	Biodiversity and Conservation	4(3+1)	4452
4	Introduction of Environmental Economics	3	4444
5	Presentation & Communication Skills	3	4454
		18	

Semester 7th

S. No.	Course	Credit Hours	Code
1	Health, Safety & Environmental Management Systems	4(3+1)	4455
2	Natural Resource Management	3	4447
3	Sustainable Development	3	4453
4	Environmental Policies & Regulations	3	4458
5	Environmental Toxicology	3	4456
		16	

Semester 8th

S. No.	Course	Credit Hours	Code
1	Research Project	6	-
2	Project Management	3	4460
		9	

Total Credit = 18+18+17+19+17+18+16+09 = 132

FEE TARIFF FOR 1st SEMESTER

Item	Rate
Registration fee	Rs.100/-
Admission fee	Rs.500/-
Technology fee	Rs.100/-
Per 4 credit hours course fee: Rs.6430	Rs.6430x3 =Rs.19290/-
Per 3 credit hours course fee: Rs.3230	Rs.3230/-
English-I (ODL)	Rs.460/-
Total	Rs.23680/-

The fee structure for the remaining semesters will be provided in due course of time.

All students are required to pay full fee in advance as prescribed at the beginning of each semester. The university reserves the right to revise the fee structure or add any fee considered appropriate at any time during the study period. All such changes will be applicable to all students

Submit your application on the prescribed admission form to:

**The Chairperson
Department of Biology and Environmental Science
Allama Iqbal Open University
Sector H-8, Islamabad**

FACULTY MEMBERS

- Dr. Hina Fatimah**
In Charge
Department of Biology and Environmental Science,
Research Complex, AIOU, Sector H-8, Islamabad
Ph. 051-9057279
- Dr. Muhammad Waseem**
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Assistant Professor
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Ph. 051-9057735
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- Ms. Saba Farooq**
Lecturer
Department of Biology
Ph. 051-9057267
- Ms. Samar Naseer**
Lecturer
Department of Biology
Ph. 051-9057730

DEPARTMENT OF CHEMISTRY

Introduction:

Department of Chemistry is a major department of the Faculty of Science. It was established in 1998 to offer postgraduate programs in Chemistry. In the beginning only MSc program was started, which was later extended to include MPhil and PhD programs. These programs have attracted teachers, employees of research organizations, industry and fresh graduates who found an opportunity to improve their qualifications. The faculty of the department comprises of one Professor, one Associate Professor, three Assistant Professors and two Lecturers. In addition the department also uses services of experienced professors as visiting faculty.

The department is situated in Research Complex on the main campus where it occupies the ground floor and a portion of the lower floor. With the expansion of lab facilities, the department has extended its academic activities by launching the BS program from Spring, 2009. BS program is visualized in the new scheme of higher education as a fundamental step in improving the standard of graduate and postgraduate studies.

The study programs in chemistry have been developed by the Faculty according to the guidelines provided by the Higher Education Commission (HEC). Necessary changes have been effected to suit our students, but without deviating fundamentally from the principles set by the HEC. The Committee of Courses of

the department comprising distinguished professors and scientists of the country thoroughly screened the proposed syllabi.

Chemistry is an experimental science. Students learn basic techniques in the labs. Therefore, it is essential to provide best lab facilities to students of various levels. The chemistry department takes pride in offering the most modern lab facilities in the country to its students in all branches of chemistry. Its research labs are equipped with CHNS Analyzer, Thermal Analyzer, UV-Visible, Fluorescence and FTIR Spectrophotometer, GC-MS, Flash Column Chromatography and HPLC units, Atomic Absorption Spectrometer, and Electrochemical System. Teaching labs are well equipped with routine apparatus and basic instruments. These lab facilities make us one of the leading teaching and research departments of the country.

The department believes in the “Opportunity of Education to All”. Therefore, it has modeled its academic programs to suit in-service teachers, employees of research organizations, industry and students who could not afford formal education for some reason. The department firmly believes in the promotion of chemistry as a science and in maintaining the highest standards.

Objectives:

- To promote chemistry as a science and to provide opportunity to those who could not educate themselves in formal system of education for one reason or another.
- To provide opportunities of professional growth to all those chemistry graduates who are working as technical staff in research organizations.
- To update the knowledge of in-service chemistry teachers.

BS Chemistry Program

a) Introduction:

There has been a continuous effort at the national level to upgrade the standard of college education. It is realized that our existing BSc program does not meet international standards. The Higher Education Commission has recommended a four-year BS program to be followed by a two-year MS program. The BS degree is considered equivalent to MSc Chemistry. However, BS degree holders are given preference for the relevant job over MSc graduates as their knowledge is more focused on chemistry. It is a major structural change in our existing educational system. The country will enormously benefit from the fruits of this change in terms of improved and balanced knowledge and skill. The department of chemistry offers the best facilities for this program in the country. Its new labs and modern equipment together with qualified faculty makes it place to which students would like to be a part of it.

b) Objectives:

The main objectives of this program are

- i. To offer training facilities of international standard.
- ii. To inculcate spirit of research to solve problems.
- iii. To unveil interesting finer points of chemistry and provide training facilities to all who desire to be educated.

c) Eligibility:

1. FSc (at least 2nd division with 45% marks) with Chemistry as one of the major subject.
2. DAE (Diploma Holders) in Chemical Engineering/ Chemical Technology from a Polytechnic Institute.
3. A- Level with Chemistry or Equivalent.

However, merit will be determined by conducting concept based written test. The students who will pass the test will be called for interview.

Only the prescribed printed admission forms will be entertained. Admission forms (duly filled in) along with the required documents/testimonials/**FSc marks sheets (Part I & II)** must be sent to:

The Chairperson

Department of Chemistry

University Research Complex

Allama Iqbal Open University, H-8, Islamabad.

(Please do not send any fee with the application form)

d) Scheme of Studies:

Currently this program is being offered in Islamabad region only. Later on it will be opened for the entire country wherever the appropriate tutorial support and laboratories will be available.

The BS program is of four years duration, split into eight semesters. In the first four semesters, the main emphasis will be on basic chemistry, general and compulsory subjects. In the 5th and 6th semesters, physical, inorganic, organic, analytical and bio-chemistry will be offered as core courses. The specialized courses will be dealt in the seventh and eighth semester. Now, the Department is offering specialization in Organic, Inorganic/ Analytical and Physical Chemistry.

SEMESTER WISE COURSE OFFERING

1st Semester

Course	Code	Credit
Inorganic Chemistry	4421	4(3+1)
Cell Biology Genetics and Evolution	4401	4(3+1)
Pre-Calculus	4431	3(3+0)
Islamiyat (on Distance Learning Mode ODL)	416	3(3+0)
English-I (ODL)	1423	3(3+0)

2nd Semester

Course	Code	Credit
Organic Chemistry	4422	4(3+1)
Diversity of Plants	4402	4(3+1)
Calculus - I	4432	3(3+0)
Fundamentals of Computer	3400	4(3+1)
English-II (ODL)	1424	3(3+0)

3rd Semester

Course	Code	Credit
Physical Chemistry	4423	4(3+1)
Fundamentals of Microbiology	4403	4(3+1)
Environmental Chemistry	4443	4(3+1)
Pakistan Studies (ODL)	417	3(3+0)
English III (ODL)	1425	3(3+0)

3rd Semester

Course	Code	Credit
General Chemistry	4424	4(3+1)
Microbial Physiology	4405	4(3+1)
Environmental Pollution	4442	4(3+1)
Public Relations	451	3(3+0)

5th Semester

Course	Code	Credit
Analytical Chemistry-I	2573	3 (3+0)
Physical Chemistry-I	2575	3 (3+0)
Organic Chemistry-I	2576	3 (3+0)
Inorganic Chemistry-I	2577	3 (3+0)
Mathematics for Chemists	2594	2 (2+0)
Chemistry Lab-I	2595	4 (0+4)

6th Semester

Course	Code	Credit
Analytical Chemistry-II	2574	3 (3+0)
Physical Chemistry-II	2580	3 (3+0)
Organic Chemistry-II	2581	3 (3+0)
Inorganic Chemistry-II	2582	3 (3+0)
Chemistry Lab-II	2596	4 (0+4)

SPECIALIZATION IN ORGANIC CHEMISTRY

Course	Code	Credit
Heterocyclic Chemistry	2585	3 (3+0)
Stereochemistry of Organic Compounds	2586	3 (3+0)
Spectroscopic Methods in Organic Chemistry	2589	3 (3+0)
Advanced Organic Chemistry Lab-I	2597	3 (0+3)
Advanced Organic Chemistry Lab-II	2598	3 (0+3)
Chemistry of Natural Products	2587	3 (3+0)
Special Organic Reactions	2590	3 (3+0)
Organic Synthesis	2591	3 (3+0)
Advance Organic Chemistry Lab-III	2537	3 (0+3)
Advance Organic Chemistry Lab-IV	2538	3 (0+3)

**SPECIALIAZATION IN
INORGANIC/ANALYTICAL CHEMISTRY**

Course	Code	Credit
Coordination Chemistry	2539	3(3+0)
Non-Spectroscopic Instrumental Methods of Analysis	2540	3(3+0)
Basic Instrumental Methods of Analysis	2541	3(3+0)
Advance Inorganic Chemistry Lab-1	2542	3(0+3)
Advance Inorganic Chemistry Lab-II	2543	3(0+3)
Organometallic Chemistry	2544	3(3+0)
Group Theory for Chemist & its Applications	2545	3(3+0)
Industrial Chemistry	2546	3(3+0)
Advanced Environmental Chemistry	2547	3(3+0)
Advance Inorganic Chemistry Lab- III	3561	3(0+3)
Advance Inorganic Chemistry Lab-IV	3562	3(0+3)

SPECIALIAZATION IN PHYSICAL CHEMISTRY

Course	Code	Credit
Chemical Kinetics	2548	3 (3+0)
Quantum Chemistry	2549	3 (3+0)
Electrochemistry	2550	3 (3+0)
Polymer Chemistry	2567	3 (3+0)
Advance Physical Chemistry Lab-1	2568	3 (0+3)
Advance Physical Chemistry Lab-II	2569	3 (0+3)
Molecular Spectroscopy	2570	3 (3+0)
Chemical Thermodynamics	2571	3 (3+0)
Solution Chemistry	2572	3 (3+0)
Surface Chemistry	2599	3 (3+0)
Advanced Physical Chemistry Lab-III	3563	3 (0+3)
Advanced Physical Chemistry Lab-IV	3564	3 (0+3)

e) Fee Tariff:

Item	Rates
Registration fee	Rs.100 (once 1 st registration in the University)
Admission fee	Rs.500/- (once at 1 st admission in the program)
Technology fee	Rs.100/- (per semester)

Fee for 1st Semester

Registration fee	Rs.100/-
Admission fee	Rs.500/-
Fee for Four Credit Hours	Rs.11700/-
Fee for (course code 4431)	Rs.3960/-
Fee for (course code 416 & 1423)	Rs.920/-
Technology fee	Rs.100/-
Total:	Rs.17280/-

Fee structure for remaining semesters will be provided in due course of time.

f) Instructional Methodology:

Study Material:

Prescribed books/ study material/ reprinted or compiled course books will be provided by the University. However, the students are advised to consult other books from the list of recommended books for further reading.

Mode of Teaching:

In this program, regular classes for all science courses and practical work will be conducted at AIOU Main Campus. Minimum 70% attendance is required in science subjects as per AIOU rules. However, compulsory courses i.e. Pakistan Studies, Islamiyat, English, and a course from Social Sciences will be offered on distance learning mode. However the tutorial meetings of all ODL courses will be held at campus to facilitate the students and for smooth running of the programme.

Assessment System

Method of Assessment for Theory and Laboratory Courses

AIOU has adopted GPA/CGPA system from Spring Semester 2009 in all its four years Bachelor degree programmes.

Continuous Assessment:

Continuous assessment will be based on assignments and class tests. The pass percentage in assignment(s)/test(s) will be 50%. Assessment for all laboratory courses will be totally based on continuous assessment. A specific number of experiments will be conducted in each lab. Each experiment will be assessed separately. Minimum pass marks for each laboratory course will be 50%. The weightage of assignment/test & practical workshop in the final result will be 30%.

Final Examination:

Final examination of 100 marks for theory course will be conducted at the end of semester. The pass percentage in final examination will be 50% and its weightage in the final result will be 70%. Student will have to successfully complete each component independently to pass a course.

Method of Assessment for Laboratory Courses:

Assessment for all laboratory courses will be totally based on continuous assessment. As already mentioned, the laboratory courses will be offered in the form of workshops. A specific number of experiments will be conducted in each workshop. Each experiment will be assessed separately, and attendance in these workshops will be compulsory for every student. Minimum required marks to pass each laboratory course will be 50%.

Degree Requirements:

In order to become eligible for the award of degree of BS Chemistry, the student will have to successfully complete all the courses within a minimum period of four years (8 semesters).

FACULTY MEMBERS

1. **Prof. Dr. Naghmana Rashid**
Chairperson / Dean Sciences
Tel: 051-9250081, 051-9057818, 051-9057754
2. **Dr. Uzma Yunus**
Associate Professor
Tel: 051-9057755
3. **Dr. Moazzam H. Bhatti**
Assistant Professor
Tel: 051-9057262
4. **Dr. Muhammad Sher**
Assistant Professor
Tel: 051-9057198
5. **Dr. Nasima Arshad**
Assistant Professor
Tel: 051-9057756
6. **Dr. Muhammad Zaman Ashraf**
Assistant Professor
Tel: 051-9057182
7. **Ms. Mehwash Zia**
Lecturer
Tel: 051-9057252
8. **Dr. Farzana Shaheen**
Lecturer
Ph: 051-9057198

DEPARTMENT OF MATHEMATICS

Introduction:

The Department of Mathematics has been established in June 2014. In June 2014, the Department of Mathematics & Statistics has been bifurcated as two independent departments. The newly established Department of Mathematics has been shifted from Research Complex, Science Block to Block No.7 and has started functioning over there. Presently the Department is offering courses of Mathematics at Secondary School Certificate (SSC), Higher Secondary School Certificate (HSSC) and Bachelor levels. The Department is running the following programmes:

- MSc Mathematics
- MPhil Mathematics
- BS Mathematics

In future the Department intends to start PhD Mathematics program. BS Mathematics has been designed after consulting syllabi of national and international universities. BS Mathematics programs will strengthen the mathematical concepts of the candidates and will enhance their logical thinking. These programs cater the needs of information Technology and other sciences disciplines.

BS Mathematics Program

Introduction:

Our existing educational system has become obsolete now and far away from international standards. To meet the challenging requirements of today's fast growing world, it is the need of the hour to change the system that does not meet the international standards. For this purpose, The Department of Mathematics has planned to launch BS Mathematics Program. The BS degree is deemed equivalent to MSc Mathematics. BS degree holders are being preferred throughout the world as their knowledge is more focused on Maths. Our BS Mathematics program will produce well trained, highly numerate and computer literate graduates.

Objectives:

- To enhance the qualification of those who could not continue their education after FSc through formal universities.
- To provide an opportunity to in service persons to improve their qualification and get promotion in their respective departments.
- To provide in-depth understanding of Mathematics and apply them in real life projects.
- To produce quality teacher/researchers of Mathematics at all levels.

Summary of the Program:

Duration: 8 semesters (4 years)

Total Credit Hours: 134.

Eligibility:

Candidates having HSSC (Math as major subject) or equivalent with minimum 2nd division.

Admission Procedure:

- Selection of the candidates will be made strictly on merit basis/criteria laid down by the Department and University.
- There will be a departmental admission committee to conduct admission test and interview to finalize the admission.

Payment of Fee:

Only selected candidates should deposit the fee after receiving the admission letter from the Admission Section, AIOU, Islamabad.

Hostel Facility:

The hostel facility is available for both male and female students of AIOU. Separate fee has to be paid for attaining the hostel facility and this facility is subject to availability.

Scheme of Studies:

Semester I

Sr. No.	Course Title	Course Code	Credit Hours
1	Compulsory English-I		3(3+0)
2	Calculus-I	4432	3(3+0)
3	Pakistan Studies		3(3+0)

4	Fundamentals of Computer	3400	4(3+1)
5	Introductory Statistics	4434	3(3+0)
6	Set Theory and Logic	4471	3(3+0)
			19

Semester-II

Sr. No.	Course Title	Course Code	Credit Hours
1	Compulsory English-II		3(3+0)
2	Calculus-II	4433	3(3+0)
3	Pakistani Adab-I		3(3+0)
4	Discrete Mathematics	1549	3(3+0)
5	Intro. to Env. Sciences	4441	4(3+1)
6	Introduction to Sociology: Culture and Society		3(3+0)
			19

Semester-III

Sr. No.	Course Title	Course Code	Credit Hours
1	Basics of Technical Writing		3(3+0)
2	Islamiat / Ethics (for non-muslims)		3(3+0)
3	Principles of Marketing		3(3+0)
4	Algebra-I	4472	3(3+0)
5	Analytical Geometry	4473	3(3+0)
6	Vector and Tensor Analysis	4474	3(3+0)
			18

Semester-IV

Sr. No.	Course Title	Course Code	Credit Hours
1	Probab. Theory and Stats.	4489	3(3+0)
2	HRM		3(3+0)
3	Algebra-II	4475	3(3+0)

4	Mathematical Methods	4476	3(3+0)
5	Language Arabic/French		3(3+0)
6	Computing Tools	4477	3(2+1)
			18

Semester-V

Sr. No.	Course Title	Course Code	Credit Hours
1	Computer and Scientific Application C++	1520	3(3+0)
2	Topology	1521	3(3+0)
3	Linear Algebra	1522	3(3+0)
4	Real Analysis-I	1523	3(3+0)
5	Ordinary Differential equations	1525	3(3+0)
			15

Semester-VI

Sr. No.	Course Title	Course Code	Credit Hours
1	Differential Geometry	1524	3(3+0)
2	Complex Analysis	1527	3(3+0)
3	Group Theory	1528	3(3+0)
4	Analytical Mechanics	1529	3(3+0)
5	Real Analysis-II	1530	3(3+0)
			15

Semester-VII

Sr. No.	Course Title	Course Code	Credit Hours
1	Numerical Methods	1531	3(3+0)
2	Partial Differential Equations	1532	3(3+0)
3	Functional Analysis	1533	3(3+0)

4	Theory of Rings	1534	3(3+0)
5	Mathematical Statistics-I	1538	3(3+0)
			15

Semester-VIII

Sr. No.	Course Title	Course Code	Credit Hours
1	Operation Research	1537	3(3+0)
2	Combinatorics	1539	3(3+0)
3	Optional-I		3(3+0)
4	Optional-II		3(3+0)
5	Optional-III		3(3+0)
			15

Optional Courses

Sr. No.	Course Title	Course Code	Credit Hours
1	Mathematical Finance-I	4478	3(3+0)
2	Theory of Racks and Quandles	4479	3(3+0)
3	Research Project	4480	3(0+3)
4	Fluid Mechanics	1535	3(3+0)
5	Applied Number Theory	1540	3(3+0)
6	Mathematical Statistics-II	1542	3(3+0)
7	Optimization	1544	3(3+0)
8	Analytical Dynamics	1545	3(3+0)
9	Mathematical Modeling	1546	3(3+0)
10	Graph Theory	1547	3(3+0)
11	Research Report	1550	3(3+0)

Fee Tariff:

Item	Rate
Registration Fee: (once at the time of first admission)	Rs.200/-
Technology Fee: (per student per semester)	Rs.100/-
Admission Fee:	Rs.700/-
Per 3 Credit Hours Course Fee: Rs. 5190/- Rs.5190×3=	Rs.15570/-
Course Code (3400) Fee: Rs. 6860/-	Rs.6860/-
Open Distance Learning Course: Rs.460/- Rs.460×2=	Rs.920/-
Total Fee for 1st Semester	Rs.24350/-

Applying For Admission Procedure:

Please send prescribed printed admission forms (duly filled in) along with the attested copies of testimonials/marks sheet before or on the closing date to:

Department of Mathematics

Block # 07, AIOU, Sector H-8, Islamabad.

Ph# 051-9057734, 051-9250056

Instructional Methodology:***Study material:***

Books will be provided to the students, along with the list of recommended books for further readings. Two assignments for each course will be given.

Mode of Teaching:

For each course, 45 hours face to face teaching at main campus Islamabad will be required. In this regard, the classes will be arranged by the Department at AIOU main campus, Islamabad on weekend basis (Friday, Saturday, Sunday) from 3:pm onward including around 10-15 days workshop at the beginning and about 10-15 days at the end of each semester if required. The final schedule of the lectures will be distributed to the students at the start of the classes during each semester at AIOU, Islamabad. Minimum 70% attendance is necessary in all subjects as per AIOU rules.

Assignment/Test:

Two assignments for each course will be given in a semester for practice only, having no weightage. 30% weightage of the aggregate marks will be given to the sessional tests.

Final Examination:

Final Examination will be held at Main Campus, AIOU, Islamabad at the end of each semester. 70% weightage of the aggregate marks will be given to the final exam.

Minimum Passing Marks:

Assignments/Class test(s)	50%
Final Examination	50%
Aggregate	50%

Note: The student has to qualify each component of a course separately.

DEPARTMENT OF STATISTICS

Faculty Members

1. **Prof. Dr. M. Naeem Qureshi**
Professor / Registrar
051-9057102
1. **Dr. Nasir Rehman**
Assistant Professor / Incharge
051-9057191, 9250056
3. **Dr. Naqeeb-ur-Rehman**
Assistant Professor
051-9057339
4. **Mr. M. Faisal Iqbal**
Lecturer
051-9057380, 9057734
5. **Mr. Muhammad Aatif**
Lecturer
051-9057197, 9057734
6. **Mr. Irfan Mustafa**
Lecturer,
051-9057197
7. **Ms. Fouzia Rehman**
Research Associate
051-9057191
8. **Staff:**
Department of Mathematics
051-9057734

Visiting Faculty Members:

The Department also takes the services of well-known Mathematicians from the different Universities of Pakistan.

Introduction:

The Department of Statistics was established in 1988 in the faculty of Sciences, Allama Iqbal Open University. Since then, the faculty and students have shared a common goal of maturing the Department with sheer hard work and constant struggle. Statistical sciences have significant impact on our lives and are a key to discoveries and innovation. Over the time, with concerted efforts, the Department has grown to its full potential and is vigorously involved in participating towards global efforts of driving a new era of growth, development and productivity. Since, our world is becoming more quantitative and data-focused, job opportunities in statistics are plentiful and projected to increase worldwide. Therefore, the alumni of the department of statistics have been working in various government departments and private sector.

The vision of Department is to impart quality education that focuses on collaborative learning through innovative teaching and research methodologies. It aims to create an environment that enables students to effectively engage in making lasting contributions in diverse fields according to rapidly changing demands of not only the home country but the entire globe. The Department is determined to further develop a state of the art model of learning and research, which will benefit the masses across the board.

Academic programs

The following degree programs are being offered in the Department of Statistics. All these programs are approved by Higher Education Commission, Islamabad.

- PhD Statistics
- MPhil Statistics
- MSc Statistics
- BS (4 years) Statistics

All the courses and contents of these programs are designed to meet the challenging statistical needs in life sciences, information technology, social sciences and other allied disciplines. The course outlines of all level courses have been designed and updated recently after consulting syllabi of national and international universities. It helps to strengthen the statistical concepts and logical thinking among our students.

Presently, these degree programs are offered at main campus only. However, in near future, the Department also intends to offer these degree programs at main regional headquarters.

BS Statistics Program

Introduction

With the passage of time in the new era of globalization, significant changes have been made in almost all walks of life to keep in pace with the growing world. Among many other fields, improvement in existing education system has become the top most priority of many nations across the globe. Therefore, it is the need of time to modify our current education system in order to meet the international standards. Having a vision of brighter

future with compatible educated youth, the Department of Statistics is launching BS Statistics program from Spring 2017. The BS Statistics would be sixteen years education equivalent to MSc Statistics and fulfilling the international standards of graduate degree.

Aims and Objectives:

1. To enhance and upgradation of qualification of those potential candidates who do not have sufficient resources to continue their studies after intermediate.
2. To enable the students to get a better insight into in depth knowledge of Statistics.
3. To produce quality teacher/researchers of Statistics at all levels.
4. To prepare well trained and skilled graduates to cater the needs of future in the field of Statistics.
5. To produce young and energetic minds in the field of Statistics in order to promote innovative research and critical thinking.

Eligibility:

Candidate must have minimum 2nd division or 45% marks in HSSC or equivalent exams approved/verified by Inter Board Committee of Chairmen (IBCC).

Merit Criteria:

After scrutinize the eligible candidates, the department will call the eligible applicants for interview. The Departmental Admission Committee will recommend the suitable candidates on merit basis.

Degree Requirements:

For the award of BS Statistics degree, the student will have to qualify the 134 credit hours consisting 44 courses within a minimum period of eight semesters.

Payment of fee:

Only the selected candidates will be asked to deposit the required fee through provisional offer letter of admission from the Admission Department, AIOU, Islamabad.

Hostel and Cafeteria Facilities:

The said facilities are available for the students of AIOU only. Separate fee has to be paid subject to the availability of food and space in Hostels.

Library and Internet Facilities:

The Library and internet facilities are also available at main Campus, AIOU. The Main Library is enriched with latest text & recommended books, e-books & free internet facilities.

The library also has a separate section for blind student. Department of Statistics also has its own computer laboratory equipped with latest software's of Statistics & internet facilities.

Scheme of Studies:

The full programme of BS Statistics comprises eight semesters. The all courses are compulsory to qualify for the award of BS Statistics degree. The semester wise course offering is as under.

1st Semester

Sr.#	Course Title	Code	Credit Hours
1.	Compulsory English-I (ODL)		3(3+0)
2.	Calculus-I	4432	3(3+0)
3.	Pakistan Studies (ODL)		3(3+0)
4.	Fundamentals of Computer	3400	4(3+1)
5.	Business Communications (ODL)		3(3+0)
6.	Introductory Statistics	4434	3(3+0)
Sub Total			19

2nd Semester

Sr.#	Course Title	Code	Cr.Hrs
1.	Compulsory English-II (ODL)		3(3+0)
2.	Calculus-II	4433	3(3+0)
3.	Pakistani Adab-I (ODL)		3(3+0)
4.	Introduction to Environment Sciences	4441	4(3+1)
5.	Introduction to regression analysis and experimental designs	4486	3(3+0)
6.	Introduction to Sociology: Culture & Society (ODL)		3(3+0)
Sub Total			19

3rd Semester

Sr.#	Course Title	Code	Cr.Hrs
1.	Basics of Technical Writing (ODL)		3(3+0)
2.	Islamiat / Ethics (For Non-Muslim Students only) (ODL)		3(3+0)
3.	Principles of Marketing (ODL)		3(3+0)
4.	Algebra-I	4472	3(3+0)
5.	Introduction to Probability & Probability Distribution	4488	3(3+0)
6.	Population Studies (ODL)		3(3+0)
Sub Total			18

4th Semester

Sr.#	Course Title	Code	Credit Hours
1.	Probability Theory and Statistics	4489	3(3+0)
2.	Human Resource Management (ODL)		3(3+0)
3.	Computing Tools	4477	3(2+1)
4.	Basic Statistical Inference	4491	3(3+0)
5.	Official Statistics	4492	3(3+0)
6.	Arabic Language (ODL)		3(3+0)
Sub Total			18

5th Semester

Sr.#	Course Title	Code	Credit Hours
1.	Non-Parametric Statistics	1513	3(3+0)
2.	Statistical Methods	1551	3(3+0)
3.	Advanced Calculus	1555	3(3+0)
4.	Total Quality Management	1563	3(3+0)
5.	Computer Programming (C & C++)	1564	3(3+0)
Sub Total			15

6th Semester

Sr.#	Course Title	Code	Credit Hours
1.	Sampling Techniques-I	1552	3(3+0)
2.	Design & Analysis of Experiments-I	1553	3(3+0)
3.	Probability & Probability Distributions-I	1554	3(3+0)
4.	Regression Analysis	1557	3(3+0)
5.	Elective-I		3(3+0)
Sub Total			15

7th Semester

Sr.#	Course Title	Code	Credit Hours
1.	Mathematical Methods for Statistics	1514	3(3+0)
2.	Probability & Probability Distributions-II	1556	3(3+0)
3.	Sampling Techniques-II	1558	3(3+0)
4.	Design & Analysis of Experiments-II	1559	3(3+0)
5.	Statistical Inference – Estimation	1561	3(3+0)
Sub Total			15

8th Semester

Sr.#	Course Title	Code	Credit Hours
1.	Econometrics	1562	3(3+0)
2.	Statistics Inference - Testing of Hypotheses	1566	3(3+0)
3.	Applied Multivariate Analysis	1567	3(3+0)
4.	Data Analysis and Statistical Packages	1569	3(3+0)
5.	Elective-II		3(3+0)
Sub Total			15

Total BS Statistics Program Credit Hours = 134

Following is the list of elective courses for BS Statistics program:

Sr.#	Course Title	Code	Credit Hours
1.	Reliability Analysis	1571	3(3+0)
2.	Data Mining	1572	3(3+0)
3.	Bayesian Statistics	1573	3(3+0)
4.	Biostatistics	1574	3(3+0)
5.	Operations Research	1568	3(3+0)
6.	Research Report	1570	3(3+0)

Note: Elective courses will be offered by the Department as per availability of resource persons.

Fee Tariff: (for 1st Semester) Total Credit Hours=19

S. No	Course Title	Code	Credit Hours	Course Wise
1.	Compulsory English-I (ODL*)		3(3+0)	Rs.460/-
2.	Calculus-I	4432	3(3+0)	Rs.5190/-
3.	Pakistan Studies (ODL*)		3(3+0)	Rs.460/-
4.	Fundamentals of Computer	3400	4(3+1)	Rs.6860/-
5.	Business Communications (ODL*)		3(3+0)	Rs.460/-
6.	Introductory Statistics	4434	3(3+0)	Rs.5190/-
7.	Registration Fee (at the time of 1 st admission)			Rs.200/-
8.	Admission Fee (at the time of 1 st admission)			Rs.700/-
9.	Technology Fee (in each semester)			Rs.100/-
Total fee for 1st Semester				Rs.19620/-

***ODL (Open Distance Learning)**

Fee structure for remaining semesters will be provided in due course of time.

Instructional Methodology:

Study Material:

A book for each course will be provided to the students by the university. A list of recommended books will also be given for further readings.

Face to Face teaching (Tutorials):

For each course, there would be 45 hours teaching support, face to face to the students. The final schedule of the lectures will be distributed to the students in consultation with the teachers (resource persons). The classes will be supplemented by the computers where required. 70% attendance in face to face teaching would be compulsory.

Weekend Classes/Workshops:

The weekend classes/workshops will be arranged at Main Campus, AIOU, Islamabad only. The introductory workshop and end semester workshop may also be arranged at the beginning and at the end of each semester (if necessary).

Continuous Assessment:

- Two home-assignments for each course will be given to the students.
- Two sessional exams for each course will be conducted and 50% marks in sessional exam is mandatory to appear in final examination.
- A student having less than 50% marks in continuous assessment component would not be eligible to appear in final exam. However, he/she can enroll in the same course at the next offering of this as per AIOU rule.
- 30% weightage will be given to the assignments/sessional tests.

Final Examination:

Final Examination will be held at the end of each semester. 70% weightage will be given to the final examination.

Passing percentage:

Assignments/Sessional tests	50%
Final Examination	50%
Aggregate	50%

Note:

- The student will have to pass each component separately to pass a course. However, sessional tests must pass before to appear in the final examination.
- Please do not deposit / hand over any fee along with admission form.

Applying Procedure for admission in BS Statistics

Please send the duly filled prescribed printed admission form along with testimonials from Matriculation to FA/FSc levels/ICom (twelve years education) particularly the detail marks certificates (DMC) on the following address.

Chairman
Department of Statistics,
Block-7, Allama Iqbal Open University,
Sector H-8, Islamabad
Ph. No. 051-9057266, 9250062
Email: statistics@aiou.edu.pk

FACULTY MEMBERS

1. **Prof. Dr. Irshad Ahmad Arshad**
Chairman
Ph: 051-9057163, 9250062
Email: irshad.ahmad@aiou.edu.pk
2. **Dr. Muhammad Zakria**
Associate Professor
Ph: 051-9057372,
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3. **Dr. Tauqir Ahmed Mughal**
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Ph: 051-9057209
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4. **Ms. Asma Farid**
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5. **Mr. Muhammad Mushtaq**
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6. **Ms. Sidra Anjum**
Research Associate
Email: sidra.anjum@aiou.edu.pk
7. **Ms. Sumera Mubarik Awan**
Statistical Assistant
Email: sumaira.mubarik@aiou.edu.pk
8. **Staff Phone:** Ph: 051-9057266

BS PHYSICS

Introduction:

Realizing the need of technology and scientific education in Pakistan Department of Physics at AIOU began in 1998 with technological needs in areas like Energy, Energy Efficiency, Climate, Energy for Sustainable Development, Renewable Energy, Hydrogen Energy, Environment, Astronomy, Nanotechnology, Materials Science, Plasma Physics, Medical Physics, Cosmology, Geo Physics, Density Functional Theory (DFT), and Nuclear fields. A major emphasis of current research activities are on promotion in renewable energy and related areas in which the Department have led to innovations.

The Department is presently running MSc, MPhil and PhD degree program with specialization in various disciplines. New fields of specialization and programme of studies are approved and be operational from the next academic year. Apart from capacity development, activities Department of Physics has been involved in several international, national and regional research projects. Physics Department has developed research linkage with other National and International Universities and research organizations of repute to ensure two-way flow of knowledge.

Vision:

The Department of Physics carries out Physics and provides teaching and research programs that will contribute significantly to the development of human capacity, science and technology in Pakistan. Our vision is to see our graduates and postgraduates to be equipped with the fundamental knowledge of Physics, problem solving, life and communication skills. This will be achieved by reviewing and developing relevant academic programmes and research and research projects to address Pakistan technological needs in areas like Energy, Renewable

Energy, Hydrogen Energy, Environment, Astronomy, Nanotechnology, Materials Science, Plasma, Medical Physics, Cosmology, Geo Physics, Density Functional Theory (DFT), and Nuclear Physics. Our vision is to be a locally and internationally recognized Physics Department that exposes its successes in public awareness campaign and through established knowledge dissemination channels.

Mission:

The Department of Physics at AIOU becomes a nationally and internationally recognized research and educational unit. Our faculty strives to push the boundaries of our understanding in a wide variety of fundamental and applied Physics areas while providing the best research opportunities for our majors. The blending of classroom learning with training in XXI Century front-edge research facilities allows our graduates post graduates to become successful researchers, teachers and applied scientists in nowadays-competitive marketplace. At the same time, we are fully committed, as the physics department of the major research university in our border region, to contribute to the general public appreciation and respect for the scientific work and knowledge.

Core Values:

To perform to the highest levels of competence and professionalism in research and training, acting with utmost honesty and integrity To sensitivity to staff and student welfare while instituting measures that meet the need of all stake holders Advance knowledge and technologies Generate, preserve and disseminate knowledge and be involved in the development of innovative products Cherish academic freedom, nurture and reward talent. The Department aspires to be an effective agent of change and a model for the other Department in the field of research so as to meet the grooming demands of the new millennium.

Objectives of the Program:

The main educational objectives of BS (4-year) degree program are:

1. To impart students with a conceptual understanding of the fundamental principles of Physics, natural laws and their interpretation, as well as mathematical formulation of the physical phenomena in nature.
2. To develop critical skills necessary for solving unknown problems from our physical surroundings.
3. To develop the capability of analyzing, addressing and posing solutions to problems of natural importance and to instill a deep appreciation of the need for optimum utilization of natural resources and environment.
4. To instill in students the habit of independent thinking, deep inquiry, and motivation for self-education.
5. To sharpen our students' mathematical prowess making them capable of modeling, analyzing and predicting the behaviour of physical processes.
6. To enhance our students skills in scientific communication and the ability to clearly present physics and science in simple and clear language.
7. To introduce to students the spirit of working in interactive groups with the necessary requirements of scientific and professional ethics.
8. To develop hands-on experience in different laboratory techniques, modern instrumentation.
9. To enhance student competence in the design and conduct of experiments and analysis and presentation of experimental data and results.
10. To provide an in-depth understanding of some specialized area of Physics through the option of elective courses.
11. To equip students with the necessary skill set for pursuing careers in Physics education, research and industry in government or private organizations.

Eligibility Requirements:

- FSc / I.Cs (Physics, Mathematics combination) with 45% marks or 2nd division.
- Less than 45% one semester (Foundation) extra.
- Admissions will be strictly on merit on number of seats available.
- Test and interview will be conducted in the Department for selection of students.
- Students passing the test will be called for interview.

Scheme of Studies:***Semester wise course offering:*****SEMESTER – 1st**

S. No.	Course Title	Code	Credit Hours
1.	English Composition & Comprehension	5451	3+0
2.	Pak Studies	5465	2+0
3.	Calculus -I	4432	3+0
4.	Introduction to Computers	3400	3+0
5.	Mechanics	5452	3+1= 4
6.	Laboratory for mechanics & fluids	5453	1+0
7.	Introduction to Sociology	4681	3+0

SEMESTER – 2nd

S. No.	Course Title	Code	Credit Hours
1.	Technical & Business Writing	5454	3+0
2.	Islamic Studies OR Ethics (for non-Muslim students only)	5466 5467	2+0
3.	Calculus-II	4433	3+0
4.	Electricity & Magnetism	5455	3+1=4
5.	Laboratory for Electricity & Magnetism	5456	1+0
6.	Modern Physics	5457	3+0
7.	Laboratory Techniques and Error Propagation	754	3+0

SEMESTER – 3rd

S. No.	Course Title	Code	Credit Hours
1.	Communication Skills	5458	3+0
2.	Linear Algebra	1560	3+0
3.	Waves & Oscillations	5459	3+0
4.	Laboratory for Thermodynamics	5460	1+0
5.	Introductory Statistics	4434	3+0
6.	Principle of Marketing	470	3+0

SEMESTER – 4th

S. No.	Course Title	Code	Credit Hours
1.	Heat & Thermodynamics	5461	3+0
2.	Ordinary Differential Equations	1525	3+0
3.	Probability Theory & Statistics	3447	3+0
4.	Optics	5462	3+0
5.	Laboratory for Optics & Spectroscopy	5463	1+0
6.	Introduction to Environmental Sciences	4441	3+0

SEMESTER – 5th

S. No.	Course Title	Code	Credit Hours
1.	Mathematical Methods in Physics-1	751	3+0
2.	Classical Mechanics & Relativity	752	3+0
3.	Electronics	2564	3+0
4.	Atomic & Molecular Physics	2551	3+0
5.	Laboratory for General & Nuclear Physics	766	2+0

SEMESTER – 6th

S. No.	Course Title	Code	Credit Hours
1.	Mathematical Methods in Physics-II	755	3+0
2.	Quantum Mechanics-I	756	3+0
3.	Electromagnetic Theory – I	765	3+0
4.	Thermal & Statistical Physics	2566	3+0
5.	Computational Physics	769	3+0
6.	Laboratory for Electronics	762	2+0

SEMESTER – 7th

S. No.	Course Title	Code	Credit Hours
1.	Electromagnetic Theory – II	2565	3+0
2.	Quantum Mechanics-II	759	3+0
3.	Solid State Physics-I	761	3+0
4.	Lasers & Optics	758	3+0
5.	Digital & Computer Hardware Electronics	2553	3+0
6.	Laboratory for Digital & Computer Hardware Electronics	2556	3+0

SEMESTER – 8th

S. No.	Course Title	Code	Credit Hours
1.	Research Techniques	5464	3+0
2.	Nuclear Physics	760	3+0
3.	Advanced Digital & Computer Hardware Electronics	2560	3+0
4.	Laboratory for Advanced Digital & Computer Hardware Electronics	2561	4+0
5.	Electronic Communication System	2559	3+0

Total Credit Hours: 135

GOF = General Subjects from Faculties other than Sciences
GRF = General Subjects from Science Faculty.

General Subjects from Faculties other than Sciences (GOF)

GOF-1: Introduction to Sociology (4681)

GOF-2: Principle of Marketing (470)

General Courses from Science Faculty (GRF):

GRF-1: Laboratory Techniques and Error Propagation (754)

GRF-2: Introductory Statistics (4434)

GRF-3: Introduction to Environmental Sciences (4441)

- A total of two GOF and three GRF courses must be taken

Detail of Elective Courses for BS 4 Year Programme:

These elective courses can be chosen from the list or new elective course may be offered according to the availability of staff and necessary infrastructure. University may also tailor these courses according to their facilities.

List of Elective Courses

S. No.	Course Title
1.	Plasma Physics
2.	Methods of Experimental Physics
3.	Environmental Physics
4.	Introduction to Quantum Computing
5.	Quantum Information Theory
6.	Quantum Field Theory
7.	Digital Electronics (already in offering)
8.	Lasers (already in offering)
9.	Laser Engineering
10.	Experimental Techniques in Particle and Nuclear Physics
11.	Electronic Materials and Devices
12.	Fluid Dynamics
13.	Introduction to Photonics
14.	Introduction to Materials Science
15.	Introduction to Nano - Science and Nanotechnologies
16.	Particle Physics
17.	Computer Simulations In Physics
18.	Surface Sciences

Degree Requirement:

For the award of BS (Physics) degree, the students will have to complete the courses offered equivalent to 135 credit hours (52) within a minimum period of eight semesters.

Fee Tariff:

Item	Rates
Registration fee	Rs.200/-(once at the time of 1 st admission in the University)
Admission fee	Rs.700/-(once at the time of 1 st admission in the program)
Fee per credit hour	Rs.1620/-
Th. Course fee	Rs.4860/-(per 03 credit hours course)
Course Code 3400	Rs. 6860/-
Course Code 4681	Rs. 1930/-
Lab Course	Rs.3230/- (for each 2 credit hr lab course) Rs.1620/- (for each 1 credit hr lab course)
Technology fee	Rs.100/- per student per semester

Note: Only selected candidates will be informed individually to deposit the prescribed fee in the AIOU main campus branches on same date.

Instructional Methodology:

Allama Iqbal Open University employs media mix as methodology of instruction in which printed material, audiovisual support, and face-to-face tutorial support are mixed in accordance with the requirement of the discipline and the level of course. In view of special requirements of post-graduate studies in physics the following methodology of instruction will be followed:

i) Study Material:

The University will provide reprinted and compiled course books.

ii) Tutorial Support and Workshops:

Face to Face lectures will be a support for this program by resource persons in the lecture sessions. A minimum, 45 hours of face to face teaching for each 03 credit hour course, will be provided in these sessions. Attendance in these sessions is compulsory. Students failing to attain 70% attendance in theory courses will not be eligible to appear in the final examination. Laboratory course and its practical work will be supervised and assessed by the laboratory course supervisors. 80% attendance is compulsory for all the students in the laboratory course. AIOU will not bear any cost regarding TA/DA or boarding/lodging facilities during the classes.

iii) Schedule of classes:

The schedule of the classes will be communicated to the students through mail and message. During any workshop AIOU reserves the right to change/alter the schedule at any time.

iv) Assessment:

Student performance is evaluated / assessed as under:

Class assignment through quiz/test/ assignment weightage	= 20%
Theory Course with 70% compulsory attendance & Laboratory course with 80% compulsory attendance	= 10%
Final Paper	= 70%
Aggregate	= 50%

At the end of each semester, the university will arrange final examination. The Roll number slips and other relevant information related to examination centers will be provided to the students before the examination. The students who fail in the final examination will be allowed two more chances to reappear in immediate subsequent semester examinations on payment of examination fee.

Admission Procedure:

Only the prescribed admission forms will be entertained. Admission forms (duly filled in) along with the required documents/testimonials/marks sheets should be sent to:

Program Coordinator

BS (4 years) Physics Program, Department of Physics,
Research Complex/Science Block, 1st Floor,
Allama Iqbal Open University, Sector H-8, Islamabad.

Admission will be finalized after test and interview.

Faculty Members:

1. **Prof. Dr. Syed Zafar Ilyas**
Chairman
Department of Physics
Phone # 051-9057830, 051-9250066
2. **Mr. Ather Hassan**
Assistant Professor
Phone # 051-9057214
3. **Ms. Surayya Mukhtar**
Lecturer
Phone # 051-9057184
4. **Ms. Hareem Mufti**
Lecturer
Phone # 051-9057727
5. **Mr. Abdul Jalil**
Lecturer
Phone # 051-9057214
6. **Ms. Uzma Nosheen**
Lecturer
Phone # 051-9057727

7. **Mr. Hussain Ahmed**
Research Associate
Phone # 051-9057214

GENERAL INFORMATION

- i. The certificates/degrees of AIOU are equivalent to any other recognized Board/University.
- ii. A candidate is required to send complete admission form along with attested copies of all educational and experience certificates to Department as mentioned in the prospectus before or on the closing date.
- iii. If an applicant of post-graduate/research level programme does not receive any information regarding admission within three months from submission of application, he/she should presume non-selected.
- iv. A course taken by any student cannot be change during the semester. However in real hardship cases, the change in courses will be allowed within fifteen days after receipt of books and deposit of prescribed fee.
- v. The address of a student will not be changed during the semester.
- vi. **Admission to courses for both the Spring and Autumn semesters are generally offered in the months of February and August, respectively, whereas, examinations commenced in November and May respectively. The continuing students are sent computerized admission forms. However if for any reason, the student could not get the said form, he/she may purchase admission from any Regional Office of the university or download from AIOU website and send it to the University within due date.**

- vii. Fee cannot be refunded once paid for admission nor can it be adjusted for any other programme
- viii. On payment of the registration fee, each student will be issued a registration number. This number must be quoted in all the future correspondence along with the roll number, course(s), code numbers and semester.
- ix. Study material shall be mailed to the students at their given addresses.
- x. After receipt of the study package, students are usually intimated about the part time tutors for each course for tutorial guidance within fifteen days. If you do not get information about tutors, you are required to send your assignment by registered post to the concerned Regional Director, Assistant Regional Director without delay; you are also required to retain a photocopy of all your assignments.
- xi. Rules and regulations framed, enhanced and changed from time to time by the authorities, bodies of the university will be effective as deemed necessary. The student will have to abide by all such rules and regulations from the date of their implementation.
- xii. A student who fails in continuous assessment component is not eligible to reappear but will be allowed to re-register for the same course at its next offering semester by the university.
- xiii. It is the responsibility of the student to remain in touch with the department regarding the selected programme.
- xiv. A student already admitted to a programme or a specialization of a programme shall not be allowed to transfer or to get admission to another programme unless he/she formally postpones it till the completion of the new programme or withdraws from the previous programme.
- xv. After completion of a programme successfully, a student has to apply to Controller of Examinations for issuance of certificate/degree.
- xvi. The university reserves the right to change the contents of this prospectus without any prior notice as per university policy.
- xvii. The student must inform the Admission Department in writing within the period of 15 days after receipt of study material parcel, *if found any wrong/short of material/ books which is not according to the admission form/ check list or mistake in name and address*. No request for any change will be entertained after the stipulated period.
- xviii. Check the books and tally with the course codes mentioned on the address label pasted on the registered packet. If there is any discrepancy, write immediately to Admission Department for correction/ supply of requisite books.
- xix. Admission forms incomplete in any respect will not be entertained and will be returned after close of semester to the students indicating the deficiency in clear terms with advise to request for refund of fee.
- xx. Admission form received without prescribed fee less fee or fee deposited after due date will not be considered.
- xxi. In case of discrepancies in the name of student/ Father's name of the student or difference in name mentioned in his/her other educational certificates, the name on the Matric certificate of the student will be considered as correct name. The Examination Department shall also issue certificate/ degree on the said name.

xxii. In case provision of forged documents for admission, not only the admission will be refused to the applicant but the fee deposited by him/her will also be forfeited. The university may proceed further in the matter.

REGULATIONS FOR REFUND OF ADMISSION FEE

Admission fee once deposited by the candidates/ students in the university account will neither be refunded nor converted/adjusted as a matter of right. However fee paid by the candidates/students will be settled in the following cases:

- i) The candidates/ students who deposit the fee for a programme and later on change their mind to apply in another programme and communicate their decision in black and white to the admission section before dispatch of study material in such cases, fee will be refunded to them after deduction of 10% of the total amount deposited.
- ii) The candidates/ students who discontinue the programme/ courses(s) after dispatch of books, neither their admission will be cancelled nor fee will be refunded to them.
- iii) The candidates/ students who are not allowed admission to a programme offered by the university due to less enrolment/ non formation of viable group/ non offering of courses, full fee will be refunded to them.
- iv) The candidates/ students who know that they are ineligible for admission to a programme, and even then they deposit the fee, in such cases, the fee will be refunded after the deduction of 25% as services charges from the total amount.

- v) The amount deposited by the candidates/ student in excess (more than the prescribed fee) will be refunded/ adjusted within a year.
- vi) Cases of refund of admission fee will be processed after finalization/ completion of admission of the semester and only on the production of original Bank Challan/Receipt No. 3 & 4.
- vii) If candidates/ students deceive the university and get admission in two different programmes simultaneously in a semester admission will be cancelled in both the programmes and the fee deposited for both the programmes will be forfeited.

IMPORTANT TELEPHONE NUMBERS

Sr. No.	Name	Telephone Nos.
1.	Director Admissions	051-9250043 051-9250162 (Fax)
2.	Additional Registrar (Mailing)	051-9250185
3.	Controller of Examinations	051-9250012
4.	Director Students Affairs	051-9250174
5.	Assistant Registrar (Postgraduate)	051-9057422

ADDRESS OF PART-TIME REGIONAL COORDINATORS

PUNJAB

1.	Mr. Muhammad Sidique Awan, Regional Coordinator, Allama Iqbal Open University, SS, Govt. Higher Secondary School, Basharat, Choa Saidan Shah, District Chakwal. 0334-8743874	2.	Mr. Zafar Ali Khan, Regional Coordinator, Allama Iqbal Open University, Chief Executive, Zaib Model Girls High School, Lawa, District: Chakwal. 0332-5912101	3.	Mr. Arshad Saeed Ahmed, Regional Coordinator, Allama Iqbal Open University, SSS, Govt. Higher Secondary School, Kallar Kahar, District: Chakwal. 0333-5315165
4.	Ms. Rukhsana Raza Shah, Regional Coordinator, Allama Iqbal Open University, Senior Headmistress, Govt. Girls High School, No. 2, Talagang, District: Chakwal. 0302-5302603	5.	Mr. Abdul Ghafoor Zahid, Regional Coordinator, Allama Iqbal Open University, Senior Headmaster (Retired), House No.111, Madina Colony, Pir Shah, Kamalia. 0321-6550499	6.	Mr. Muhammad Siddique Regional Coordinator, Allama Iqbal Open University, Assistant Professor ® Chak No. 298 JB, Tehsil, Gojra. 0301-7055350
7.	Mr. Abdul Razzaq, Regional Coordinator, Allama Iqbal Open University, Dy. Headmaster, Govt. High School No. 1, Pir Mahal. 0312-6560889, 0331-8675175	8.	Ch. Muhammad Ashraf, Regional Coordinator, Allama Iqbal Open University, Street No. 10, Mohallah Mission Compound, Mehmada Raod, Gujrat. 0332-7144828,0341-6302010	9.	Mr. Arshad Mahmood Shahid, Regional Coordinator, Allama Iqbal Open University, Principal, Govt. Boys Degree College, Sara-e-Alamghir. 0333-5841544
10.	Mrs. Nasreen Faheem, Regional Coordinator, Allama Iqbal Open University, Headmistress, Govt. Girls High School, Kotli Satian. 0321-8532633	11.	Mr. Waqar Ahmed Qazi Regional Coordinator, Allama Iqbal Open University, Principal, Govt. M.C Boys Higher Secondary School, Gujar Khan. 0333-5205781	12.	Mr. Mazhar Iqbal, Regional Coordinator, Allama Iqbal Open University, SSS, Govt. Higher Secondary School Choa Khalsa, Tehsil Kallar Syedan, Distt. Rawalpindi.

13.	Syed Zamir Hussain Shah, Regional Coordinator, Allama Iqbal Open University, SSS, Govt. Higher Secondary School, Nara, Kahuta. 0301-5151911	14.	Mr. Sabeer Ahmad Abbasi, Regional Coordinator, Allama Iqbal Open University, Lecturer, Govt. College, Jhika Gali Murree. 0300-5585228	15.	Dr. Muhammad Anwar, Regional Coordinator, Allama Iqbal Open University, Headmaster, Govt. Boys School, Bhabra, Wah Cantt. 0300-5363883
16.	Mr. Muhammad Rafiqure, Regional Coordinator, Allama Iqbal Open University, Senior Headmaster, Govt. Model High School, Mailsi, 0302-7324215	17.	Mr. Shahid Hussain, Regional Coordinator, Allama Iqbal Open University, Headmaster Govt. High School, 505/E.B, Burewala. 0322-6826221	18.	Mr. Zafar Mahmood Khakwani, Regional Coordinator, Allama Iqbal Open University, Dy.Headmaster(Rtd)Al.Mahmood Medical Store, Kachahry Road, Ahmad Pur East. 0300-6807969
19.	Mr. Muhammad Aslam, Regional Coordinator, Allama Iqbal Open University, SST, House No. 552, Khadim Abad Colony, Bahawalnagar. 0300-7923295	20.	Mr. Muhammad Arshad, Regional Coordinator, Allama Iqbal Open University, Principal, Govt. Higher Secondary School, 207/Murad, Chishtian. 0300-7546099	21.	Mr. Muhammad Naeem Qaisar, Regional Coordinator, Allama Iqbal Open University, Headmaster, Govt. High School, Gagan Hatta, Lodhran.
22.	Ch. Muhammad Sarwar, Regional Coordinator, Allama Iqbal Open University, Principal, (Rtd) Rizwan Surgical Hospital, Bahawalpur Road, Hasil Pur. 0300-2934131	23.	Mr. Najaf Abbas, Regional Coordinator, Allama Iqbal Open University, SS, Govt. Higher Secondary School, Bhowana. 0300-7507282	24.	Mr. Tariq Majeed, Regional Coordinator, Allama Iqbal Open University, Lecturer, Govt. Islamia College, Chiniot. 0333-6715262

25.	Ms. Razia Sultana, Regional Coordinator, Allama Iqbal Open University, Principal, Govt. Girls Higher Secondary School, Lalian. 0333-7702966	26.	Ms. Abida Parveen Maqbool, Regional Coordinator, Allama Iqbal Open University, Principal, Govt. Girls Higher Secondary School, Wasu Astana, 18-Hazari. 0344-7956763	27.	Ms. Faheem Akhtar, Regional Coordinator, Allama Iqbal Open University, SS, Govt. Girls Higher Secondary School, Ahmed Pur Sial. 0333-7514044
28.	Mr. Muhammad Sharif, Regional Coordinator, Allama Iqbal Open University, SST (R), Ward No.16, Street No.4, Nowan Sher, Shorkot City. 0301-7205704	29.	Mr. Amir Muhammad Joya, Regional Coordinator, Allama Iqbal Open University, Sr. Headmaster, Govt. High School, Kaloor Kot, Bhakkar. 0346-7579677	30.	Syed Mukhtar Hussain Bukhari, Regional Coordinator, Allama Iqbal Open University, Assistant Professor, Govt. College, Bhakkar. 0333-8909805
31.	Mr. Muhammad Suleman, Regional Coordinator, Allama Iqbal Open University, Headmaster, Govt. Elementary School, Kot Chandna, Tehsil Essa Khel. 0332-7655490	32.	Mr. Muhammad Imran, Regional Coordinator, Allama Iqbal Open University, Lecturer, Govt. Degree College, Liaqat Abad, Tehsil Piplan. 0300-9708809	33.	Mr. Faiz-ul-Hassan Khan, Regional Coordinator, Allama Iqbal Open University, SST (R), Near Jamia Masjid Firdaus, Darya Khan, District Bhakkar. 0301-4938528
34.	Mr. Akhtar Hussain, Regional Coordinator, Allama Iqbal Open University, SS, Govt. Higher Secondary School, Haiderabad, Mankera, District Bhakkar. 0336-2549797	35.	Mr. Izhar ul Haq, Regional Coordinator, Allama Iqbal Open University, Principal, Govt. Islamia Higher Secondary School No.1, Murree Road, Rawalpindi.		

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1.	Mr. Muhammad Abbas, Regional Coordinator, Allama Iqbal Open University, HST, Govt. Muslim High School, Nawabshah. 0303-3400330	2.	Mr. Ghulam Asghar Buriro, Regional Coordinator, Allama Iqbal Open University, SPE, ADEO, Male, Moro. 0301-3641656	3.	Mr. Abdul Razzaque Babar, Regional Coordinator, Allama Iqbal Open University, HST, Govt. High School, Khair Pur Nathan Shah. 0300-3275652
4.	Mr. Nisar Ahmed Sahito, Regional Coordinator, Allama Iqbal Open University, HST, Govt. High School, Sehwan Sharif. 0300-3274374	5.	Mr. Abdul Hameed Channa, Regional Coordinator, Allama Iqbal Open University, HST, Govt. High School, Kandiaro. 0301-2127574	6.	Mr. Khair Muhammad Malik, Regional Coordinator, Allama Iqbal Open University, HST-18, Govt. High School, Kandh Kot, District Kashmoor. 0333-7308122
7.	Mr. Noor Hussain Solongi, Regional Coordinator, Allama Iqbal Open University, Headmaster, Govt. High School Papri, Tehsil Sobho Dero, District Khair Pur Mirs. 0302-3907513	8.	Mr. Muhammad Siddique Solangi, Regional Coordinator, Allama Iqbal Open University, Rtd. HST, Village Muhammad Arab Solangi, Tehsil Kot Diji, District Khair Pur Mirs. 0306-5390005	9.	Mr. Miruddin, Regional Coordinator, Allama Iqbal Open University, Headmaster, Govt. High School, Lal Jurio Khan Shanbani, Tehsil Saleh Pat, District Sukkur 0308-3600995
10.	Mr. Nasrullah Chana, Regional Coordinator, Allama Iqbal Open University, Rtd. HST, B-19, Village & Post Office Khanpur Mahar, Tehsil Khan Garh, District Ghotki. 0333-7223187	11.	Pir Ghulam Mohiuddin Shah, Regional Coordinator, Allama Iqbal Open University, Deputy Director Education, Elementary, Secondary & Higher Secondary, Mirpurkhas Division Mirpurkhas.0333-7033047	12.	Mr. Khalid Nadeem, Regional Coordinator, Allama Iqbal Open University, HST, Govt. High School Sanghar. 0333-2911690

13.	Mr. Imam Bux Soomro, Regional Coordinator, Allama Iqbal Open University, HST, Govt. Boys Higher Secondary School, Kashmore 0333-7367874				
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KHYBER PAKHTOON KHWA

1.	Mr. Muhammad Shakir Qureshi, Regional Coordinator, Allama Iqbal Open University, ASDEO, Village &P/O, Ghazi, Distt. Haripur. 0301-5411217	2.	Mr. Sajjad Aziz, Regional Coordinator, Allama Iqbal Open University, SS, Govt. Centennial Model Higher Secondary School No.1, Haripur. 0301-5520529	3.	Mr. Zafar Ali Khan, Regional Coordinator, Allama Iqbal Open University, SST, Govt. High School Kolika, Tehsil Oghi, District Mansehra. 0334-5586962
4.	Mr. Khurshid Khan, Regional Coordinator, Allama Iqbal Open University, Principle, Govt. High School, Takht Bhai. 0315-9300077	5.	Mr. Noor Habib, Regional Coordinator, Allama Iqbal Open University, ADEO (Rtd.), C/O Gulab Stationry , Near Allied Bank, Main Bazar, District Battagram. 0321-7511614	6.	Mr. Wajid Ali Shah, Regional Coordinator, Allama Iqbal Open University, SS, Govt. Higher Secondary School, Dhodial, Mansehra. 0345-9466969
7.	Mr. Ibrar Hussain, Regional Coordinator, Allama Iqbal Open University, SST, Govt. High School No.1, Havelian. 0301-8146290	8.	Mr. Allah Nawaz, Regional Coordinator, Allama Iqbal Open University, Principle ®, Mohallah Maidan, Gali Qbar Wali, Tank. 0345-9840522	9.	Mr. Jahan Zeb Shah, Regional Coordinator, Allama Iqbal Open University, Headmaster, Govt. High School, Jogan Noth, Swabi. 0346-9816759

10.	Mr. Iqbal Badshah, Regional Coordinator, Allama Iqbal Open University, SST, GCMHS No.1, Lakki Marwat. 0346-9501419	11.	Mr. Hayatullah, Regional Coordinator, Allama Iqbal Open University, Principal, Govt. Centennial Model High School, Turangzai, Charsadda. 0313-9173884	12.	Mr. Muhammad Taufeeque Khan, Regional Coordinator, Allama Iqbal Open University, Principal @, Mahtab Khurshid Memorial School Kotha, Tehsil Topi, District Sawabi. 0346-5586218
13.	Mr. Gohar Khan, Regional Coordinator, Allama Iqbal Open University, Principal, Govt. High School No.2, Jamrud, Khyber Agency. 0333-9330321	14.	Mr. Ghaza Bacha, Regional Coordinator, Allama Iqbal Open University, ADEO, Office Swabi, (Shah Mansoor). 0300-5686975	15.	Mr. Inam Ullah, Regional Coordinator, Allama Iqbal Open University, Asstt. Prof., Govt. Degree College, Lakro, Mohmand Agency. 0301-8890889
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