

PIR MEHR ALI SHAH  
**ARID AGRICULTURE UNIVERSITY**  
RAWALPINDI



**SELF ASSESSMENT REPORT 4<sup>TH</sup> CYCLE (2012-14)**

**Department of Statistics & Mathematics**

*(Final)*

**M.Phil Statistics**

**Program Team:**

Dr. Muhammad Hanif (Coordinator)  
Chairman

Dr. Saima Mustafa (Member)  
Assistant Professor

Mr. Nasir Ali (Member)  
Lecturer

Ms. Beenish Shakir (Member)  
Lecturer

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## **INTRODUCTION**

The Department of insights has dynamic commitment to research and educating in measurements in university of PMAS, Arid Agriculture University. To upgrade and reinforcing its range of exploration, in 2010 the division has propelled M.Phil Program and in Fall-2013 the office has started M.Phil evening program. Currently 72 students are enrolled in this discipline. The core research areas of M.Phil statistics is based on time series analysis, probability and stochastic analysis, Bayesian Analysis and mathematical statistics. The department concentrated in these respective areas and research proposals are normally be linked to one of these areas. The program has created prominent analysts in these fields and they have been serving the nation in distinctive limits. With the latest developments in the field of Statistics, the department regularly revises and updates its curriculum. This Self Assessment Report (SAR) is based on eight criteria.

**Components of Self Assessment Process:** This Self Assessment has been prepared on the basis of the following eight criteria described in self Assessment Manual.

### **Criterion-1: PROGRAM --MISSION, OBJECTIVES AND OUTCOMES**

#### **Mission Statements of the Program**

The mission statement of the program is to produce skilful staff for initiative positions in the important field and understand the hypothetical underpinnings of the advanced movement.

#### **Objectives of Programs**

1. The objective of Statistics manages the all center courses applicable to Statistical Methods. Its target is to give the essentials of all controls applicable to study like Experimental Designs, Sampling Techniques, Bayesian Analysis, Estimation and Testing of Hypothesis, Probability and Stochastic Analysis, Operations Research Models. The department aims to offer basic and applied education to the students at all level of study in all specialized fields
2. Another essential target of M.Phil. Project is to advance Research in the separate fields. M.Phil. researchers will deliver unique inquires about on the fulfilment of their degrees. Thusly new learning will be created bringing new hypotheses and applications in those fields. The result of this will advance examination culture in Pakistan, which in its turn; will give a strong establishment to the nation's advancement.
3. To contribute to the development of new statistical methodology to address substantive problems and to promote the use of these methods through publications in both statistics and subject-matter journals.

### **Outcomes:**

1. The future plan of statistics is to dispatch higher degree in the subject of Statistics is the need of the day. Degree holders can join open and private parts offices like instruction, commonplace and government authorities of Statistics, State bank of Pakistan, Agriculture statistics and NADRA; and so forth. After the accessibility of more PhD educators the division expects to begin the PhD program.
2. The Program aims to build up a Data Analysis Center, where we can offer particular & need based courses for the persons in and outside the University.

### **Standards:**

#### **Standards 1-1: The program must have documented measurable objectives to support Faculty/College and institution mission statements**

The main objectives of the department are as below:

- The advancement and expansion of the Department of Statistics on current lines by expanding and utilizing profoundly qualified educating faculty.
- To make an examination situated environment both for understudies and educators.
- To prepare the understudies for the quest for employments as well as with the point of granting genuine information.
- To propel the understudies for higher capability and specialized aptitudes after the consummation of their expert degree.

#### **Main Elements of the Strategic Plan to Achieve Program Mission and Objectives:**

- The department is hiring highly qualified and professional teachers. In addition to this most of the faculty members are already enrolled in PhD research programs to increase their qualification and professional skills.
- The main duty of the teacher is to inculcate desire for high quality research. The department of statistics maintains a superb environment of research and education.
- The students are being taught in the department with full sincerity in a friendly way so as to motivate them to seek knowledge and to become productive citizens of the society.

## PROGRAMME OBJECTIVES ASSESSMENT

**Table 1: Program Objective Assessment**

<b>Sr. #</b>	<b>Objectives</b>	<b>How Measured</b>	<b>When Measured</b>	<b>Improvement Identified</b>	<b>Improvement Made</b>
1.	The improvement and broadening of the Program of Statistics on current lines	By surveys and having opinions from the students.	Throughout the semester.	Teachers have interaction to local universities and foreign institutes	By increasing and employing highly qualified teaching faculty.
2	To give the students higher qualification and to train them with impart of new knowledge.	. Through teacher students' discussions.	Continuous activity.	New courses to be included in curriculum. The need of high tech lab and updated library.	Approval of new curriculum integrated approaches. The accomplishment of high tech lab
3	To teach the students of departments other than Statistics the applications, tools and techniques of statistics in their disciplines.	The present need to make subject more practical.	Continuous activity.	Teaching skills should be improved and modified	The application of better and advanced teaching skills with applied knowledge.

## PROGRAMME LEARNING OUTCOMES

All the students in Statistics possess the ability of

1. Improvement and developing powerful communication skills by presentations, oral discussions and through survey and seminars.
2. Courses are designed and updated according to the modern techniques which are based on new analytical, classical and probabilistic techniques.

**Standard 1-2: The program must have documented outcomes for graduating students. It must be documented that the outcomes support the program objectives and that graduating students are capable of performing these outcomes.**

### **1. To Produce True Researchers and Professionally Skilled Students:**

The main and foremost aim of the program is to produce students who are skillful and are capable of applying their statistical knowledge and computational techniques in practical situations.

## **2. To Improve the Basic Knowledge and Strengthen the Foundation:**

To improve and modernize the basic and applied knowledge and skills of the students in pertinent field employing advanced analytical tools, techniques and equipments and to strengthen the foundation in statistical sciences.

## **3. To Make Statistics a Viable science for Other Disciplines:**

To minimize the distances between statistics and other sciences with the application of advanced techniques and updated research.

## **4. Encouraging the Students to Conduct Research in Practical Areas:**

Most important thing is to develop culture of research in teachers as well as in the students not only from the field of statistics but from all the other disciplines and to motivate them to pursue true knowledge.

To train and supervise the students while studying and conducting research in practical and economically thematic areas. To strengthen and streamline the department with integration of knowledge in related fields like Mathematics and Economics etc.

### **To instigate higher Qualification and Research:**

It is the duty of the program to provide not only the basic education of the subject but also to make available the opportunity for students of getting higher qualification in advanced fields of research. This is one of the objectives of the program to initiate M.Phil and henceforth PhD classes for the university students.

### **Main elements of strategic plan to achieve mission and objectives**

1. A wide variety of the core and elective subjects offered in the program help the students to gain professionally sound and skillful education. Very effective and sound teaching system based on experience and vision gathered from world reviews, literature, innovative proceedings, symposia and workshops, etc is applied especially in the initial semesters. The work load should be divided carefully.
2. Research seminars and presentations are conducted frequently in the department. The department is also looking forward for giving incentives for research publication in scientific papers, books and manuals etc.
3. Increased study tours are helpful to have an idea of the practical applications of the subject. Updating the curriculum by including more applied and professional contents.

**Table: 2 Program Objectives and Outcomes**

<b>Program Objectives</b>	<b>Program</b>	
	1	2
1	× × ×	× × ×
2	× × ×	× ×
3	× ×	× × ×

The cells with the sign × × × × shows the achievement of that particular program objective with **highly relevant highly satisfactory level.**

× × × shows **very relevant and satisfactory**

× × shows **relevant and satisfactory**

× shows **relevant**

Outcomes are based on actual obtained from the department.

**Standard 1-3: The results of program’s assessment and the extent to which they are used to improve the program must be documented.**

Following actions have been taken on the basis of program assessment results.

**Actions taken based on the Results of Program Assessment**

- The main strength of the Program is the availability of highly qualified teachers with full acquaintance of their respective subjects. As mentioned before, half of the faculty members are on their study leaves, completing the PhD degrees and improving their qualifications.
- The curricula are being updated by including more applied and professionally sound courses.
- The establishment of high tech computer lab is considered to be very important if we want to impart real education equipped with advanced statistical tools. Necessary steps are being taken in this respect.

**Skills and Capabilities Reflected in performance as Statisticians:**

- Students develop ability to apply knowledge of Statistics and to work as professionals, to build confidence and communicate effectively in writing, oral and demonstration to use modern tools, techniques and skills for their profession, formulate and design the experiments and to work effectively in a team, to manage Data Analysis problems and improve ability to recognize future needs.

### Weaknesses Detected:

- The computer lab needs immediate attention as it should be outfitted with state of the art equipment as soon as possible without which the concept of the updated research is unfruitful. The latest versions of personal computers with statistical packages and data analysis software installed are severely needed.
- Highly qualified faculty is always needed in the department. There is a need for short foreign training to faculty members.
- Latest literature, reviews, journals and books from the authentic scientists are hardly available.

### Major Future Improvement Plans

- Overall enhancement of knowledge and skills of faculty members in relation to the latest global advancements in the discipline is going on through different PhD research programs and collaborative research project within Pakistan. Most of the teachers of the department are busy in improving their qualifications.
- To increase the faculty members by employing highly qualified teachers and researchers.
- To provide quality education in Statistics department through audio visual aids and modern tools along with provision of latest literature, journals, books, reviews and access to internet.

**Standard 1-4: The Program must assess its overall performance periodically using quantifiable measure**

**Table 3: Quantitative Assessment of the Program (2012-2014)**

Sr. #	Particular	No	Remarks
1.	M.Phil. Degree awarded	50	50 students joined. M.Phil. Program at different universities
2.	Students : Faculty ratio	1:3	Does not fulfill HEC criteria
3.	Technical : Non Technical ratio	1:3	Fulfils HEC criteria
4.	Research activities, short courses, workshops and seminars		Publications, seminar is conducted

Table 3 contains information about publications, seminar done by the students and faculty members.

**Table 4: Present Performance Measures for Research Activities**

Name of Faculty Member	Publications		
	Published	Submitted	Total

Dr. Muhammad Hanif	8	6	14
Dr. Saima Mustafa	6	6	12
Mr. Nasir Jamal	5	6	11

The evaluation process indicated high efficiency of system and satisfactory impact of outcomes. Admission criteria of M.Phil program is as follows

**Table 5: Degree Requirements**

<b>Degree</b>	<b>Pre-requisites</b>
M. Phil	M.Sc with 45% marks and GAT with 50% passing marks

**Program Assessment Results:**

The results of Program assessment by the SAR and results are presented in Annexure II (summarized in Tables and Figures). The overall result, however, shows that the students are satisfied with the Programmed method of teaching as well as delivery (See Annexure II & III).

A number of surveys based on the SAR questionnaires were initiated to evaluate the Program outcomes / graduates the department, since majority of the Statistics graduates enter research institutes and university, questionnaires were sent to them for their feedback. Maximum students filled the survey forms.

The evaluation process indicated high efficiency of system and satisfactory impact of outcomes. The following are evaluation survey report of different semesters (2012-2014) which are evaluated from the students.

## **Program Assessment Results**

**Fall 2012- 2013**

According to the Performa 1 and Performa 10, the teachers have been evaluated by the students for the semester Fall 2012-2013.

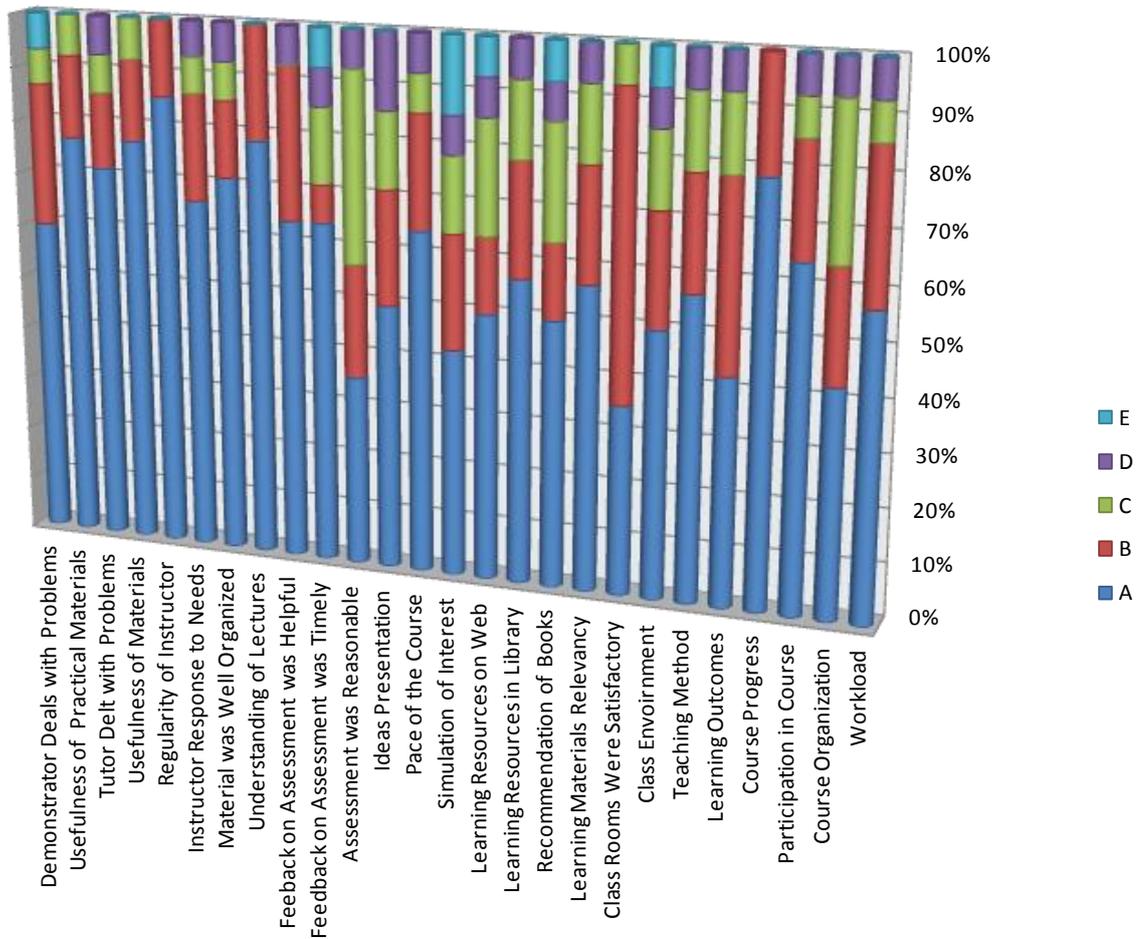
1. Dr. Muhammad Hanif
2. Dr. Saima Mustafa
3. Mr. Nasir Jamal

Performa 1 titled **Student Course Evaluation.**

Performa 10 titled **Teacher Course Evaluation.**

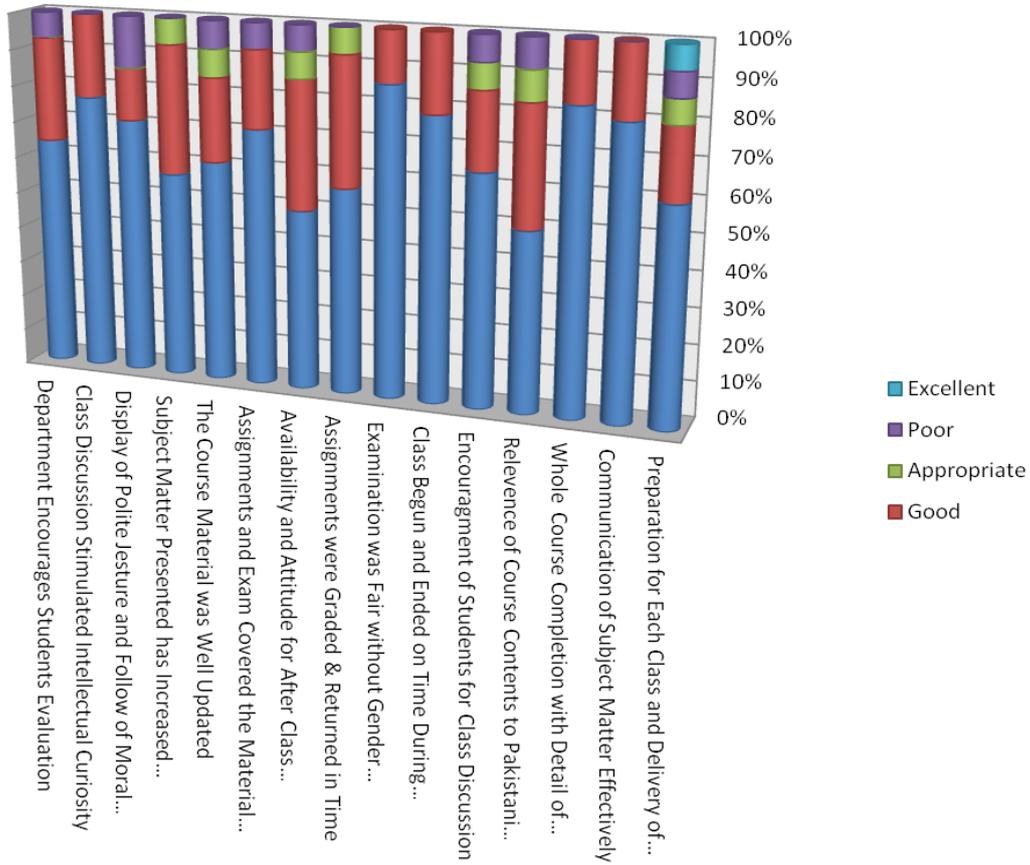
Individual statements of the Performa's are also summarized in the following Figures.

## Stat-761 Dr. Muhammad Hanif Performa1



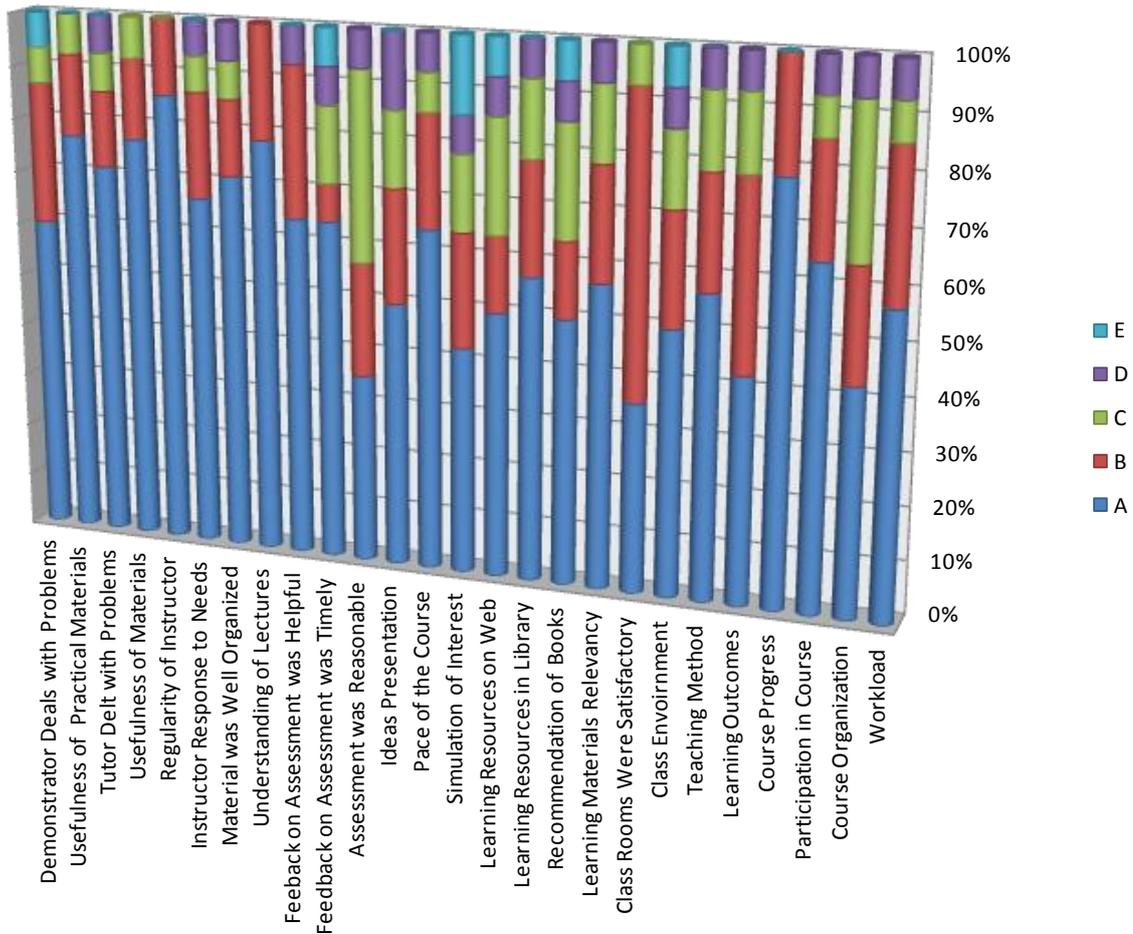
Data is collected from 15 students of M.Phil. About 38% were strongly agreed 58% were agreed 91% were certain and 9% disagree regarding the questions that assessment was reasonable, 40% were strongly agreed 78% were agreed and 90% were certain and 10% disagree that the learning outcome , workload was manageable 52% were strongly agreed and 85% were agreed and 5% certain and 10% disagree about pace of the course.

**Stat-761**  
**Dr .M.Hanif**  
**Performa 10**



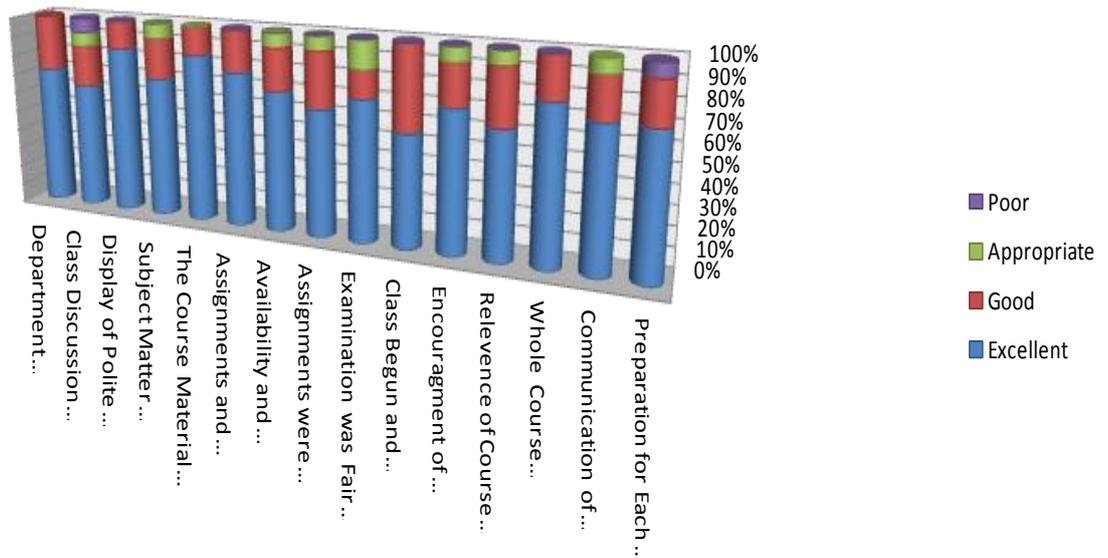
Data is collected from 15 students of M.Phil. About 50% were excellent 20% were good and 10% were appropriate regarding the questions of course material, 80% were excellent and 10% were good and 10% were appropriate about the class discussion

**Math-772**  
**Dr. Saima Mustafa**  
**Performa1**



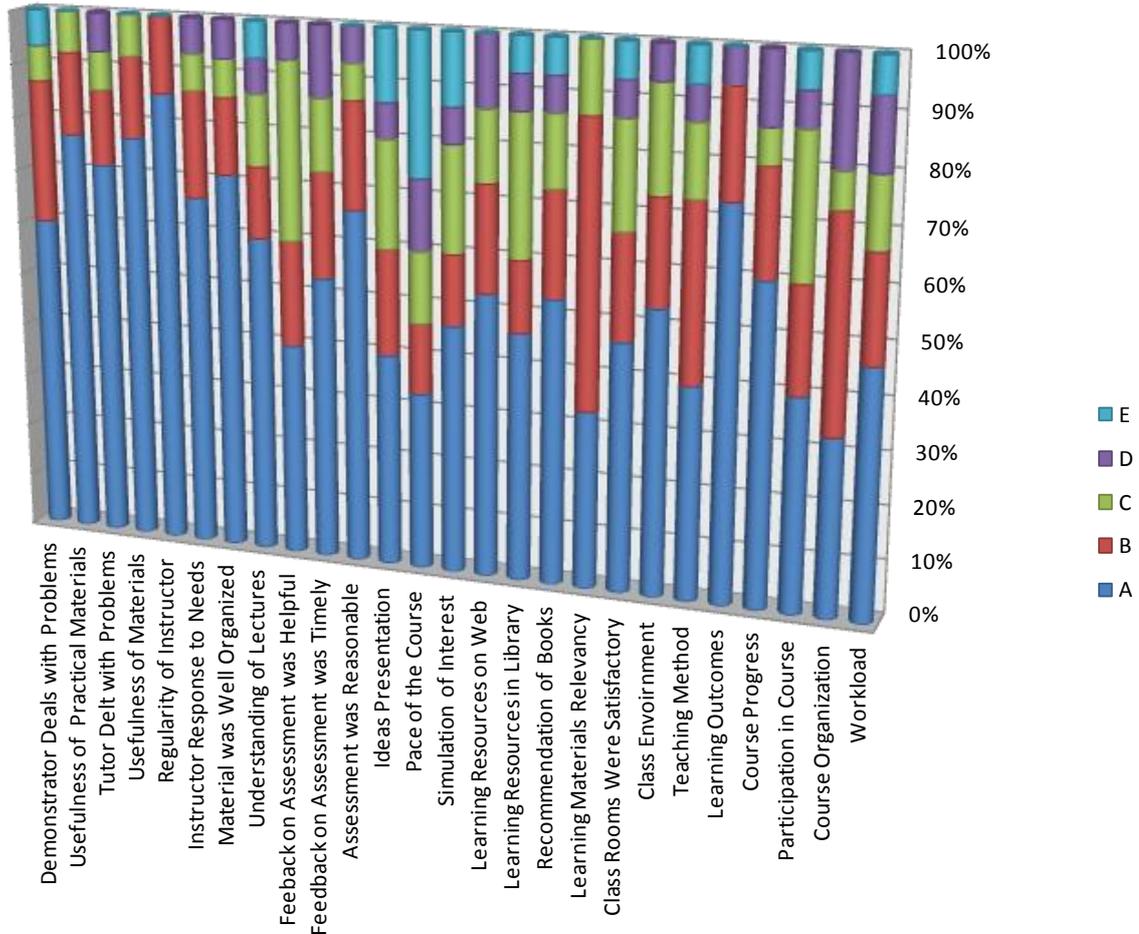
Data is collected from 15 students of M.Phil. About 35% were strongly agreed 15% were agreed 40% were certain and 10% disagree regarding the questions that assessment was reasonable, 40% were strongly agreed 35% were agreed and 17% were certain and 8% disagree that the learning outcome , workload was manageable 55% were strongly agreed and 25% were agreed and 5% certain and 15% disagree about pace of the course.

## Math-772 Dr Saima Mustafa Performa 10



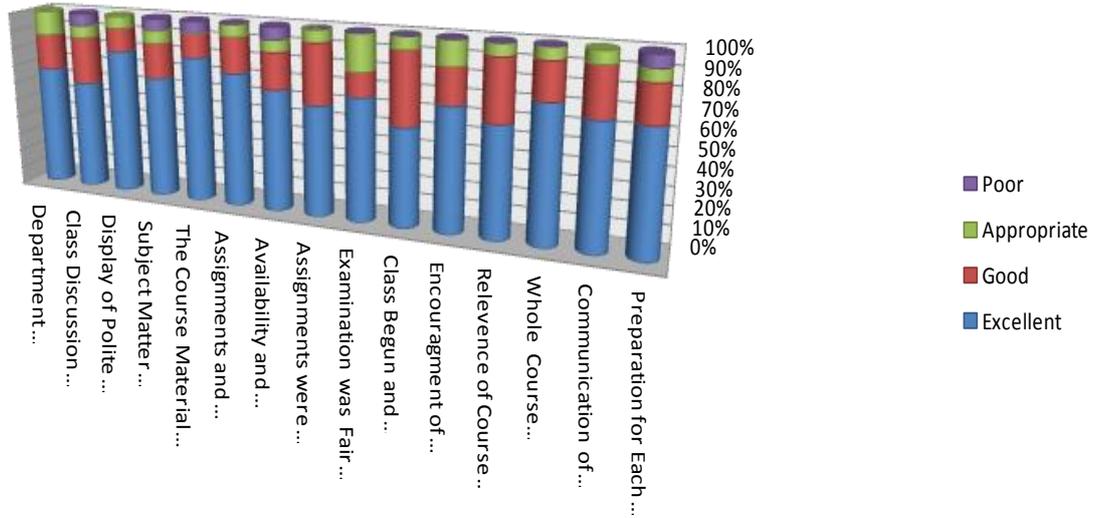
Data is collected from 15 students of M.Phil. About 70% were excellent 20% were good and 10% were appropriate regarding the questions that preparation for each class, 50% were excellent and 20% were good and 10% were appropriate and 10% were poor about the class discussion

## Stat-756 Mr. Nasir Jamal Performa1



Data is collected from 15 students of M.Phil . About 65% were strongly agreed 20% were agreed 6% were certain and 27% disagree regarding the questions that assessment was reasonable, 71% were strongly agreed 20% were agreed and 9% disagree that the learning outcome , workload was manageable 45% were strongly agreed and 20% were agreed and 15% certain and 20% disagree about pace of the course.

**Stat-756**  
**Mr. Nasir Jamal**  
**Performa 10**



Data is collected from 15 students of M.Phil . About 70% were excellent 20% were good and 10% were appropriate regarding the questions that preparation for each class, 50% were excellent and 20% were good and 10% were appropriate and 10% were poor about the class discussion

### **Spring 2013**

According to the Performa 1 and Performa 10, the teachers have been evaluated by the students for the semester Spring 2013.

1. Dr. Muhammad Hanif
2. Dr. Saima Mustafa
3. Mr. Nasir Jamal



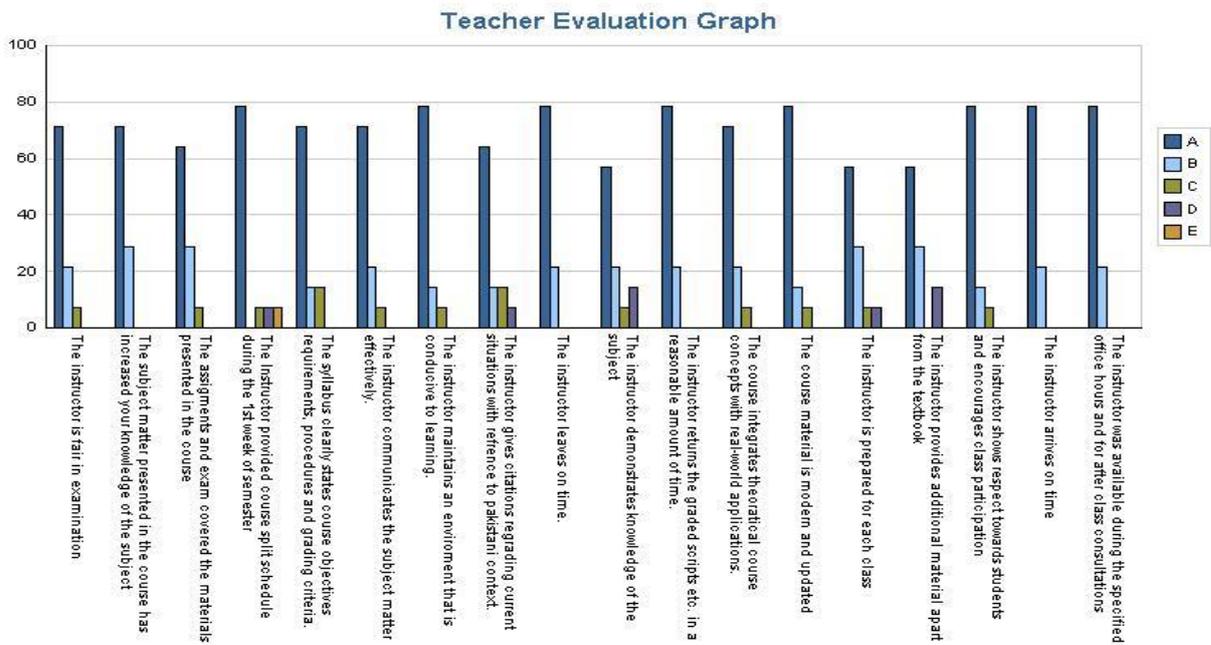
**Pir Mehr Ali Shah**  
**Arid Agriculture University**  
**Performa 10**

**Session Name:** SPRING-13

**Teacher Name:** Muhammad Hanif

**Course Name:** Regression Analysis

**Section:** A                      M/E: M                      Semester#: 2



Data has been collected from 20 students of M.Phil. Morning. About 83% were strongly agreed regarding the questions of class room were satisfactory, course was well organized and instructor been regular throughout the course and 21% were agreed that on the method of assessment were reasonable and the course was well structured to achieve the learning outcomes. About 17% uncertain that feedback assessment was timely. 5% were disagreed that material in practical was useful and 5% were strongly disagreed that the learning material were relevant.



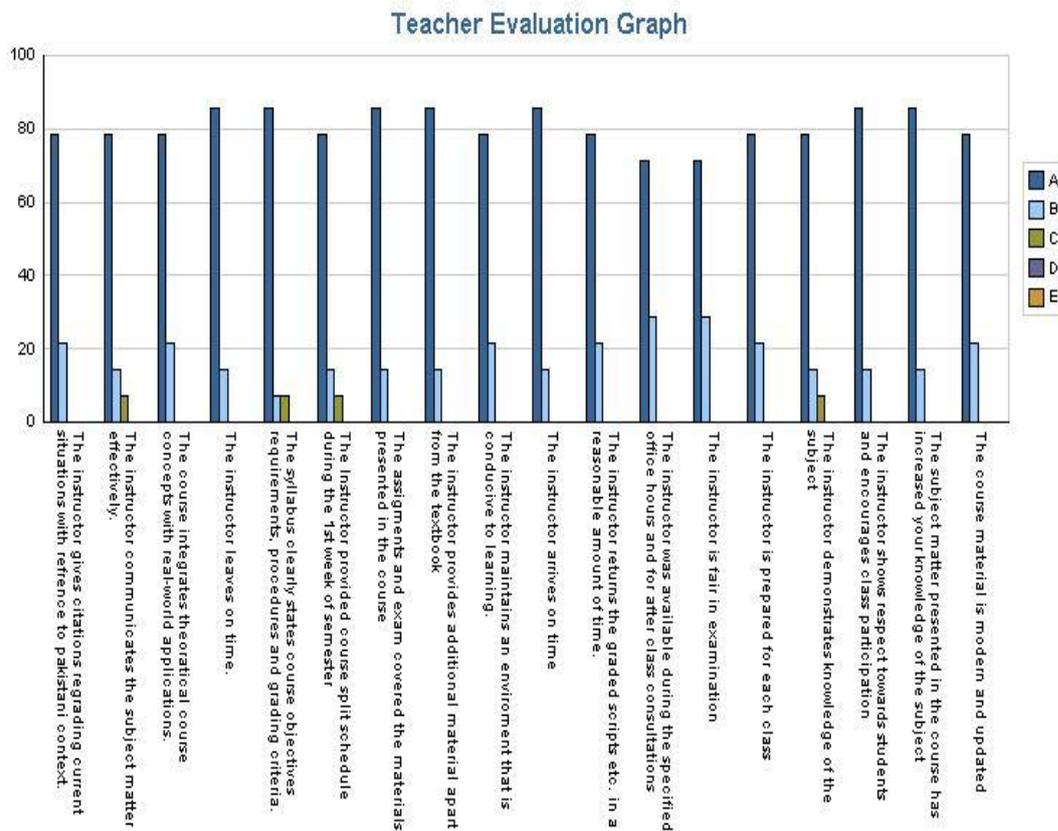
**Pir Mehr Ali Shah  
Arid Agriculture University  
Performa 10**

Session Name: SPRING-13

Teacher Name: Saima Mustafa

Course Name: Operations Research Models

Section: A M/E: M Semester#: 2



Data has been collected from 15 students of M. Phil Morning. About 79% were strongly agreed regarding the questions that course split was provided during 1<sup>st</sup> week of semester and course concepts were clear and applicable. About 29% were agreed that the instructor was available during the specified office hour and for after class consultations. About 7% were uncertain that the course material is modern and updated.

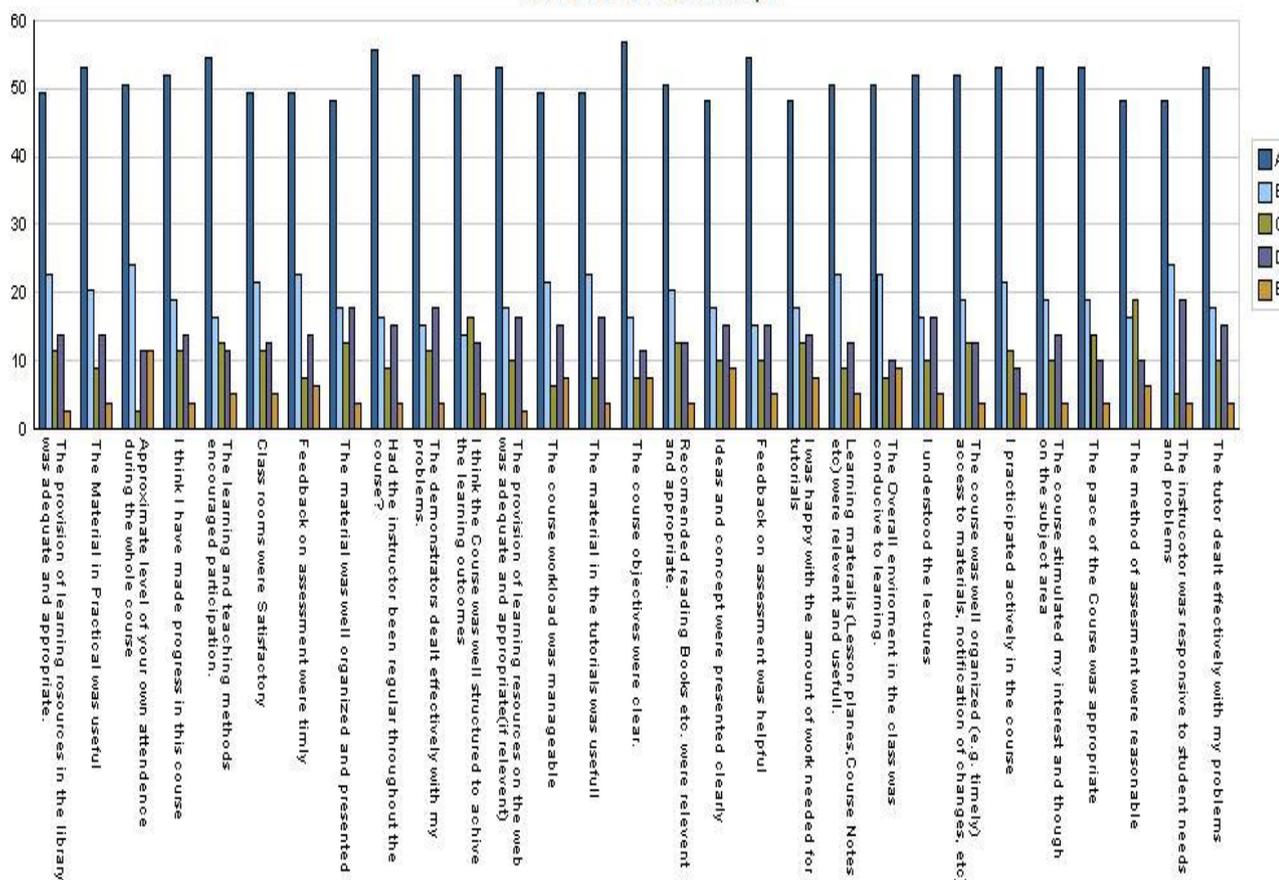


**Pir Mehr Ali Shah  
Arid Agriculture University**

**Performa 1**

**Session Name:** SPRING-13  
**Teacher Name:** Nasir Jamal  
**Course Name:** Biostatistical Analysis  
**Section:** A **M/E:** M **Semester#** 2  
**Class:** Supporting Courses

**Course Evaluation Graph**



Data was collected from 80 students of M.Phil. About 49% were strongly agreed regarding the questions of participated actively in the course and material was well organized and presented. About 22% were agreed that feedback on assessment was timely, 10% were uncertain that the matters of assessment were reasonable and ideas and concept were presented clearly. About 12% were disagreed that the classroom were satisfactory and about 4% were strongly disagreed that the tutor dealt effectively with my problems and the material in the tutorial was useful.



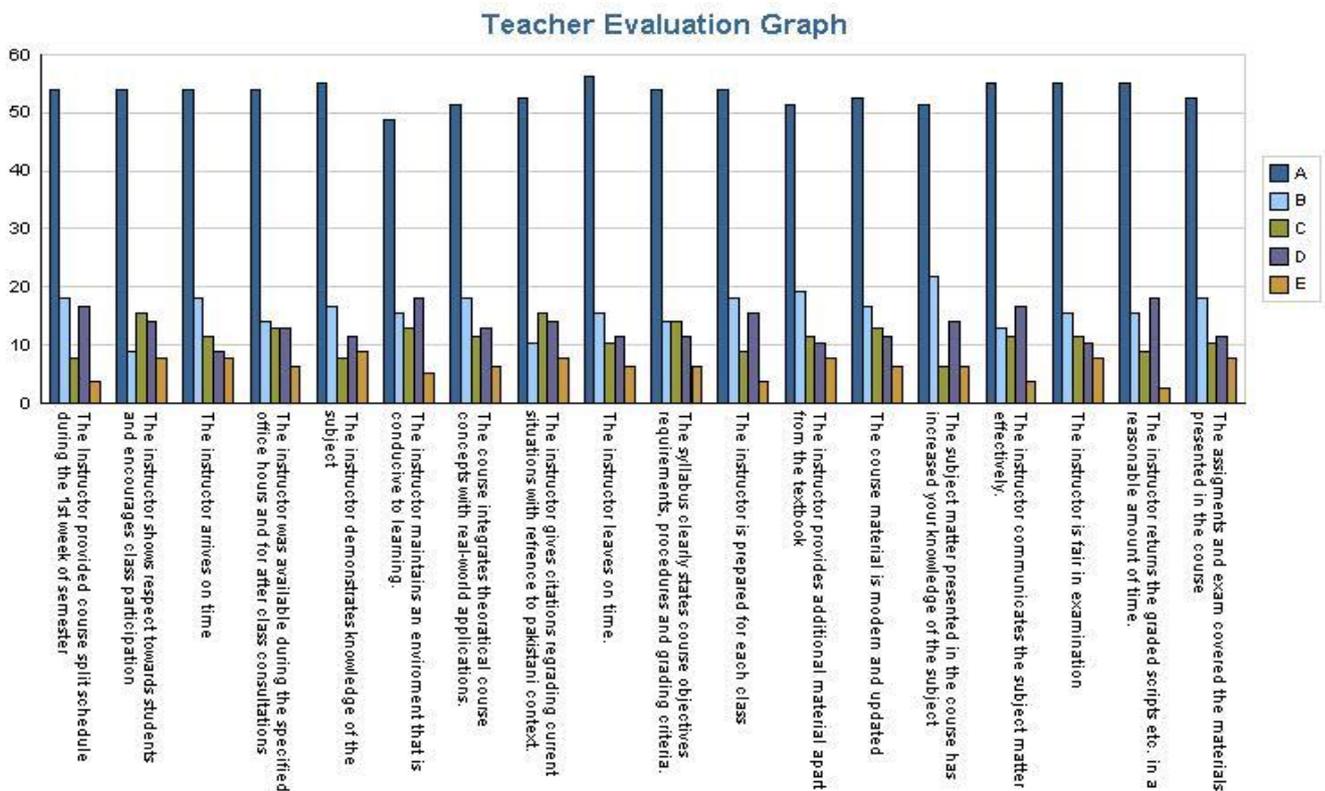
**Pir Mehr Ali Shah  
Arid Agriculture University  
Performa 1**

**Session Name:** SPRING-13

**Teacher Name:** Nasir Jamal

**Course Name:** Biostatistical Analysis

**Section:** A                      M/E: M                      Semester#: 2



Data was collected from 80 students of M.Phil. About 56% were strongly agreed regarding the questions that the instructor arrives on time and fair in examination. About 15% were agreed that the instructor leaves on time. About 10% were uncertain that the instructor provides additional material apart from the textbook. 9% were disagreed that the instructor demonstrates knowledge of the subject and 6% were strongly disagreed that the course material is modern and updated.

### **Fall- 2013-14**

According to the Performa 1 and Performa 10, the teachers have been evaluated by the students for the semester Fall 2013-14.

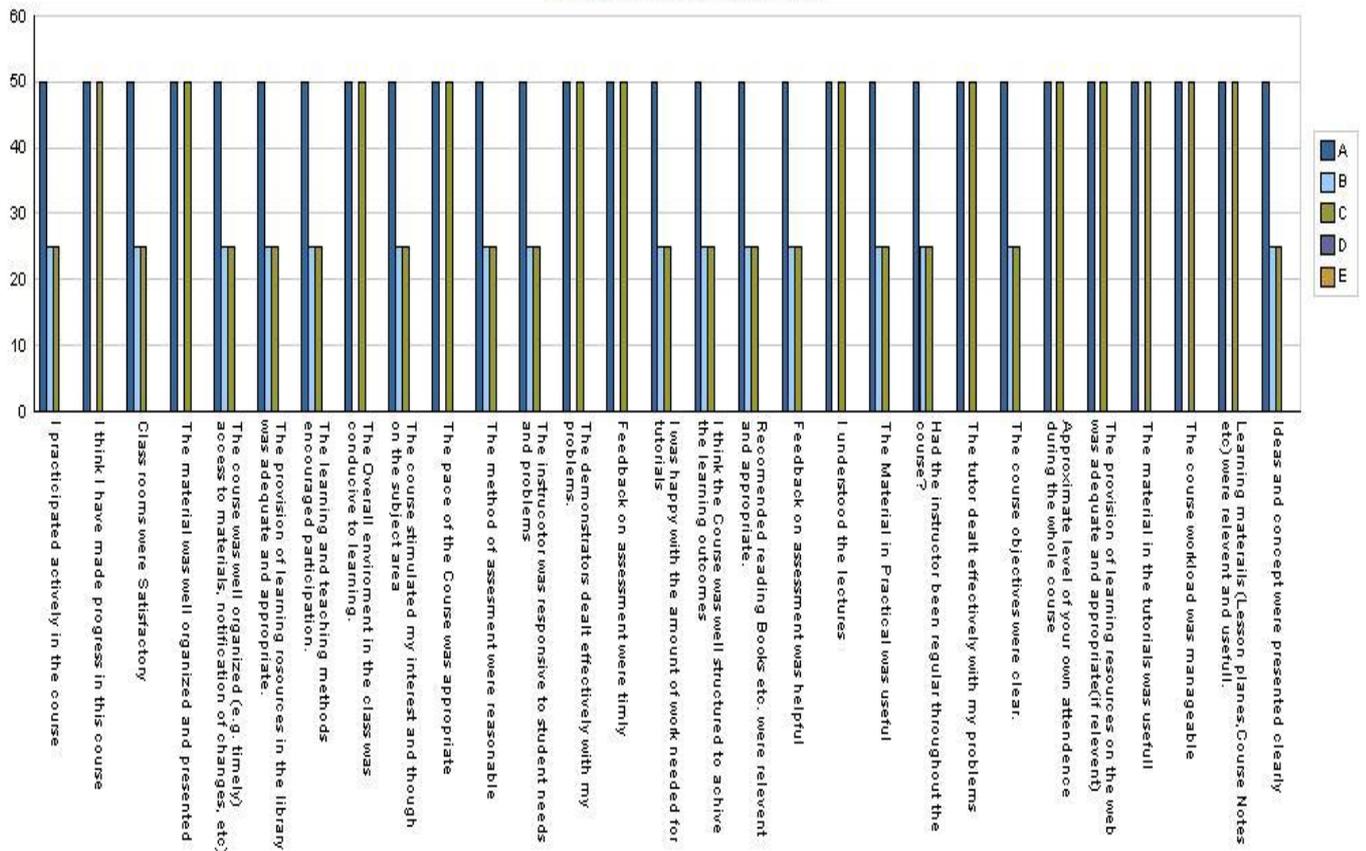
1. Dr. Muhammad Hanif
2. Dr. Saima Mustafa
3. Mr. Nasir Jamal



**Pir Mehr Ali Shah  
Arid Agriculture University  
Performa 1**

**Session Name:** FALL-13  
**Teacher Name:** Muhammad Hanif  
**Course Name:** Probability and Stochastic Process  
**Section:** A **M/E:** M **Semester#** 1  
**Class:** M.Phil (Statistics)

Course Evaluation Graph



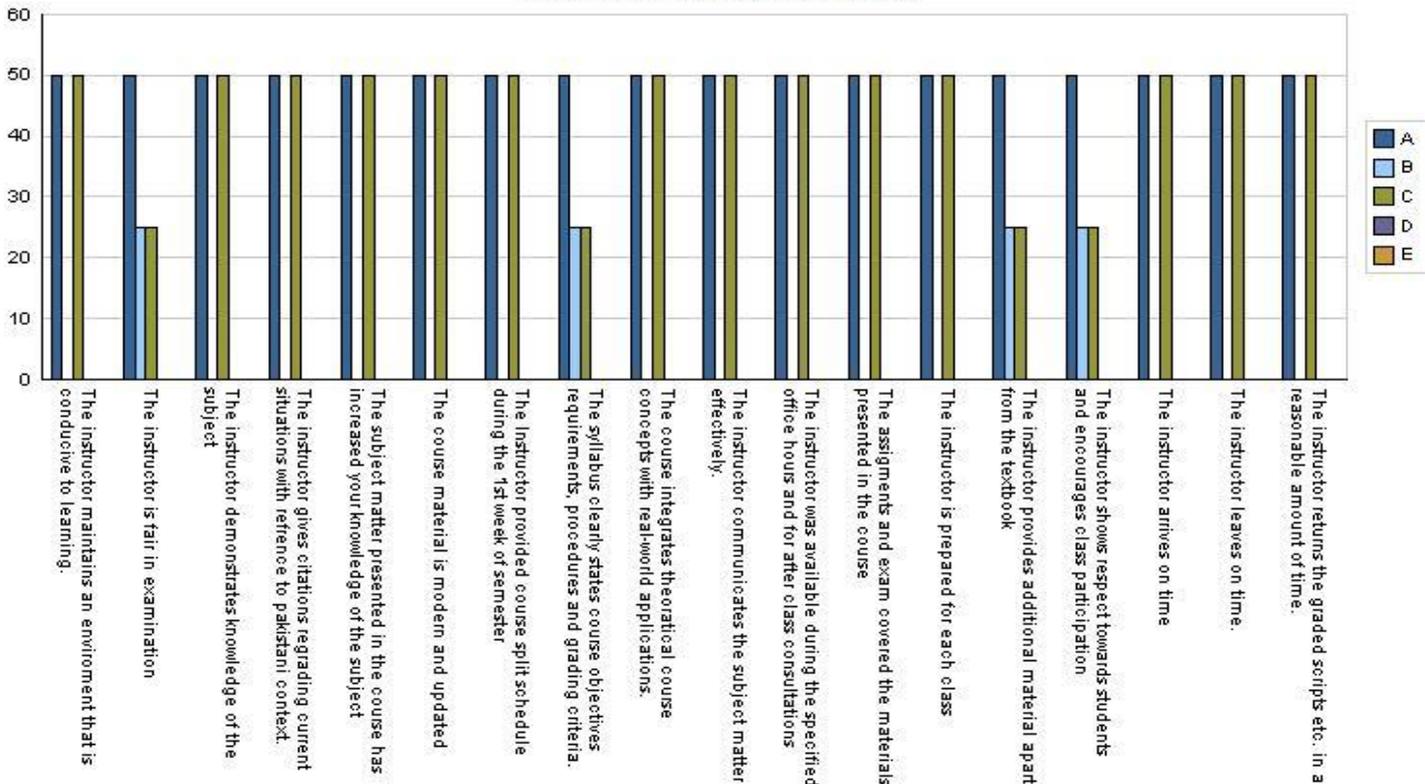
Data were collected from 15 students of M.Phil Statistics Morning; about 50% were strongly agreed, 0% were agreed, 50% were uncertain, 0% was disagreed and 0% was strongly disagreed regarding the questions that assessment was timely. 50% were strongly agreed, 0% were agreed, 50% were uncertain, 0% were disagreed and 0% were strongly disagreed that course was progressive. 50% were strongly agreed, 25% were agreed, 25% were uncertain, 0% were disagreed and 0% were strongly disagreed that objectives were clear. 50% were strongly agreed, 0% were agreed, 50% were uncertain, 0% were disagreed and 0% were strongly disagreed that workload was manageable. 50% were strongly agreed, 0% were agreed, 50% were uncertain, 0% was disagreed and 0% was strongly disagreed about the pace of the course was appropriate.



**Pir Mehr Ali Shah  
Arid Agriculture University  
Performa 10**

**Session Name:** FALL-13  
**Teacher Name:** Muhammad Hanif  
**Course Name:** Probability and Stochastic Process  
**Section:** A                      M/E: M                      Semester#: 1

**Teacher Evaluation Graph**



Data were collected from 15 students of M.Phil Statistics Morning; About 50% were strongly agreed 0% were agreed, 50% were uncertain, 0% were disagreed and 0% were strongly disagreed regarding the questions that course split was provided during 1<sup>st</sup> week of semester. 50% were strongly agreed, 0% were agreed, 50% were uncertain, 0% were disagreed and 0% were strongly disagreed that course concepts were clear and applicable. 50% were strongly agreed, 0% were agreed, 50% was uncertain, 0% was disagreed and 0% were strongly disagreed that course material was up-to-date. 50% were strongly agreed, 0% were agreed, 50% were uncertain, 0% were disagreed and 0% were strongly disagreed that instructor was prepared for class. 50% were strongly agreed, 25% were agreed, 25% were uncertain, 0% was disagreed and 0% were strongly disagreed about instructor showed respect towards students. 50% were strongly agreed, 0% were agreed, 50% were uncertain, 0% were disagreed and 0% was strongly disagreed that instructor was available during the specified office hours and after for class consultation.

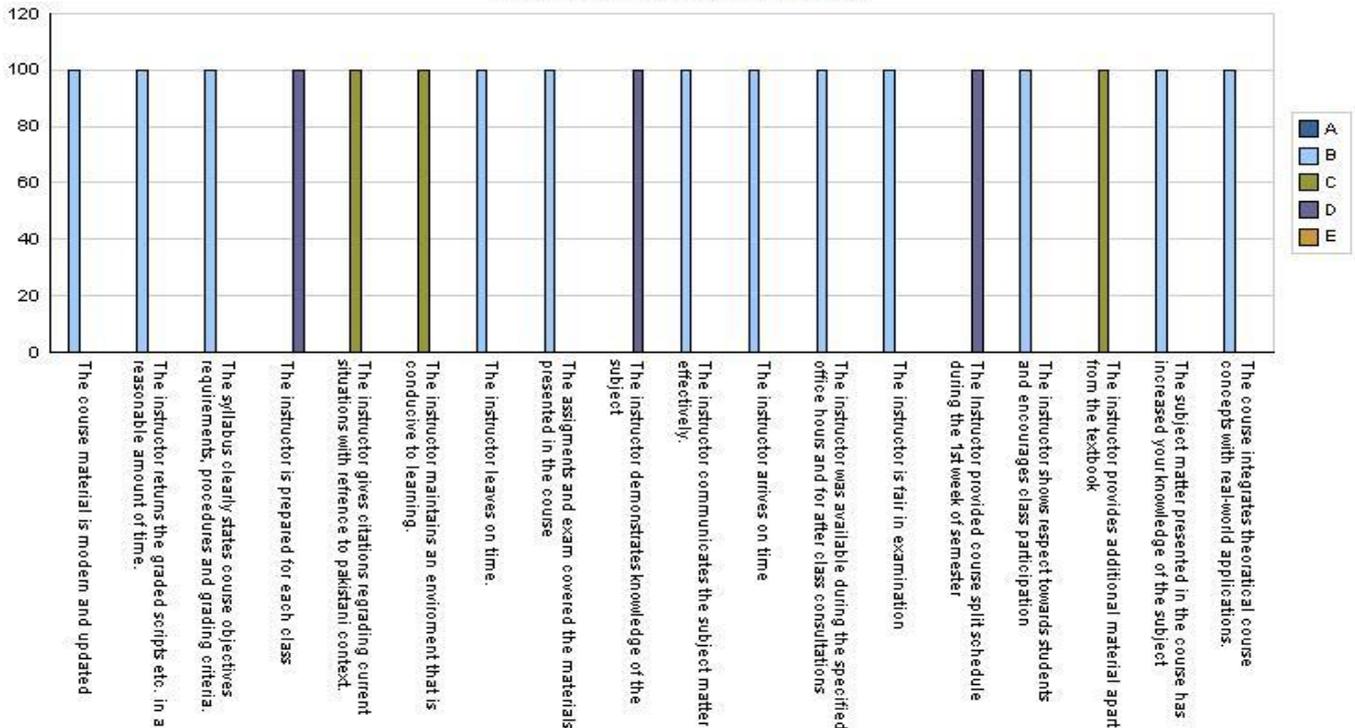




**Pir Mehr Ali Shah  
Arid Agriculture University  
Performa 10**

**Session Name:** FALL-13  
**Teacher Name:** Muhammad Hanif  
**Course Name:** Probability and Stochastic Process  
**Section:** A                      M/E: E                      Semester#: 1

**Teacher Evaluation Graph**



Data were collected from 20 students of M.Phil Statistics Evening; About 0% were strongly agreed, 0% were agreed, 0% were uncertain, 100% were disagreed and 0% were strongly disagreed regarding the questions that course split was provided during 1<sup>st</sup> week of semester. 0% were strongly agreed, 100% were agreed, 0% were uncertain, 0% were disagreed and 0% were strongly disagreed that course concepts were clear and applicable. 0% were strongly agreed, 100% were agreed, 0% was uncertain, 0% was disagreed and 0% were strongly disagreed that course material was up-to-date. 0% were strongly agreed, 0% were agreed, 0% were uncertain, 100% were disagreed and 0% were strongly disagreed that instructor was prepared for class. 0% were strongly agreed, 100% were agreed, 0% were uncertain, 0% was disagreed and 0% were strongly disagreed about instructor showed respect towards students. 0% were strongly agreed, 100% were agreed, 0% were uncertain, 0% were disagreed and 0% was strongly disagreed that instructor was available during the specified office hours and after for class consultation.





**Pir Mehr Ali Shah  
Arid Agriculture University  
Performa 10**

**Session Name: FALL-13**

**Teacher Name: Saima Mustafa**

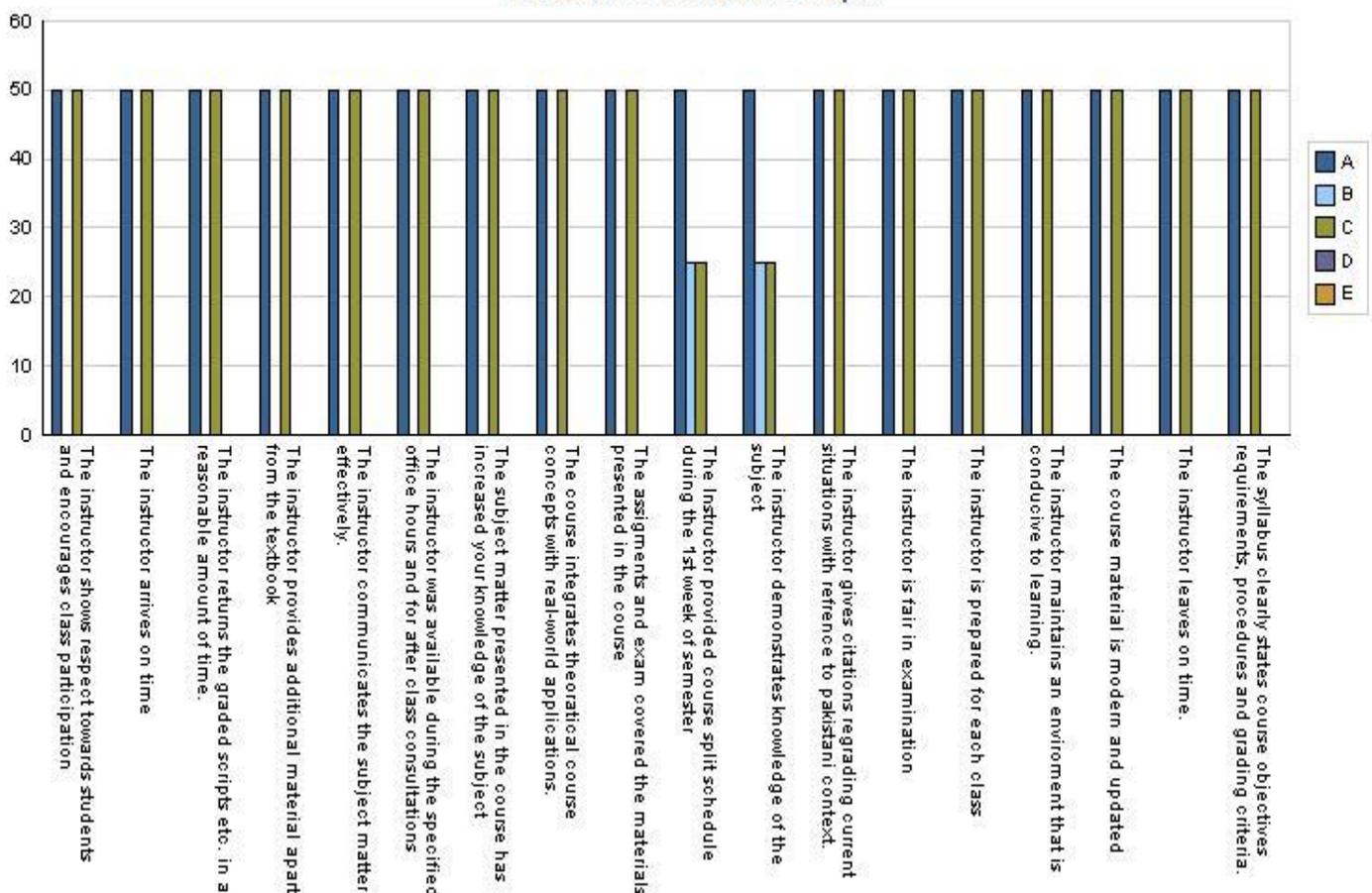
**Course Name: Applied Numerical Analysis**

**Section: A**

**M/E: M**

**Semester#: 1**

**Teacher Evaluation Graph**



Data has been collected from 15 students of M. Phil morning. About 50% students were strongly agreed regarding the questions that course split was provided during 1<sup>st</sup> week of semester while 25% were uncertain about it. 50% were strongly agreed that course concepts were clear, applicable. 50% were strongly agreed that instructor show respect towards students, available during the specified office hours and syllabus clearly states course objectives also course material was up-to-date. 50% students were uncertain about instructor arrives on time.





**Pir Mehr Ali Shah  
Arid Agriculture University  
Performa 10**

**Session Name:** FALL-13

**Teacher Name:** Saima Mustafa

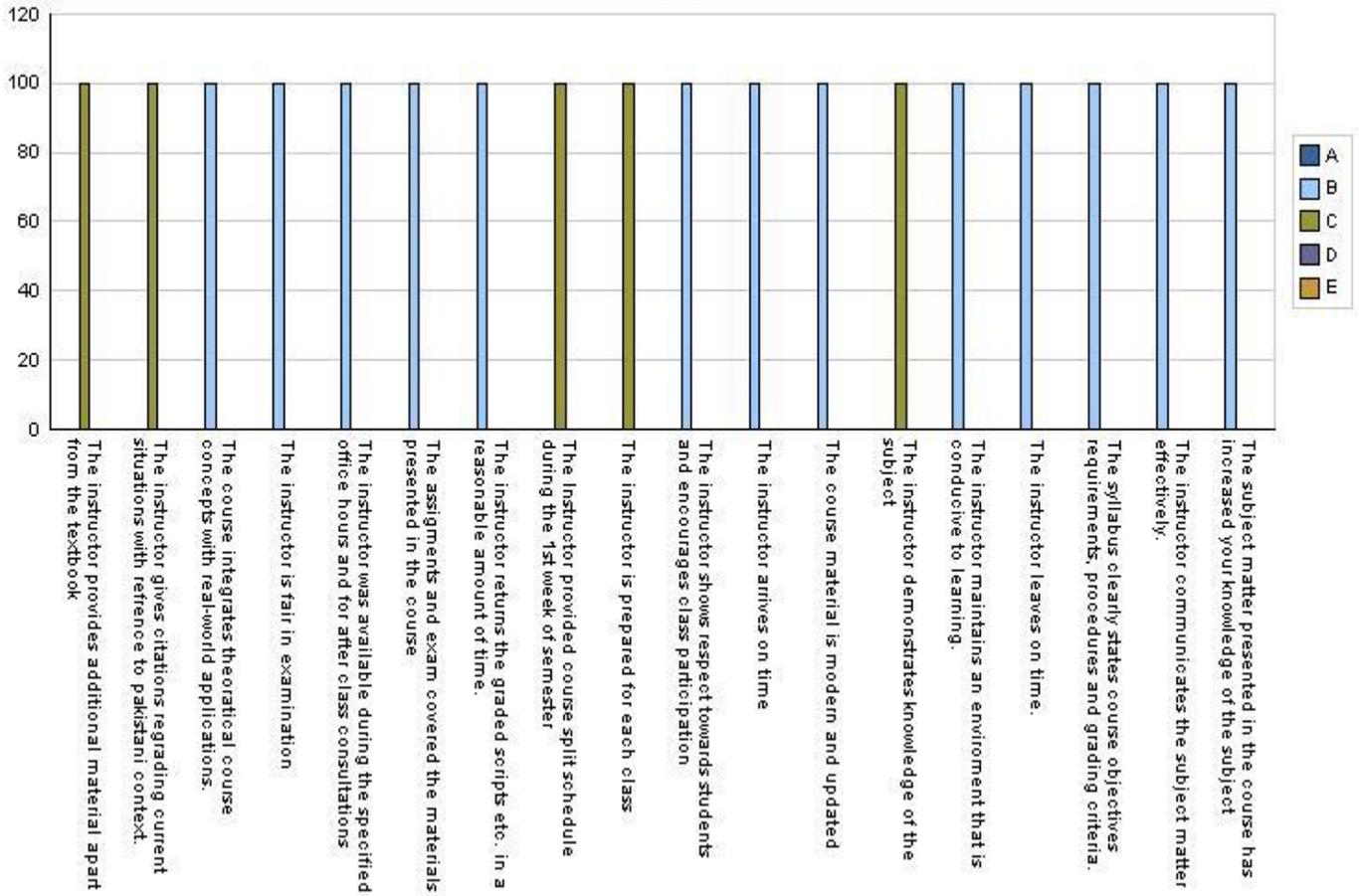
**Course Name:** Applied Numerical Analysis

**Section:** A

**M/E:** E

**Semester#:** 1

**Teacher Evaluation Graph**



Data has been collected from 15 students of M. Phil evening. 100% students were uncertain regarding the questions that course split was provided during 1<sup>st</sup> week of semester. 100% students were agreed that course concepts were clear, applicable. 100% students were agreed that instructor show respect towards students. 100% students were agreed that the instructor was available during the specified office hours and syllabus clearly states course objectives. 100% students were agreed that the course material was up-to-date. 100% students were agreed about instructor arrives on time and 100% are agreed that instructor leaves on time.





**Pir Mehr Ali Shah  
Arid Agriculture University**

**Performa 10**

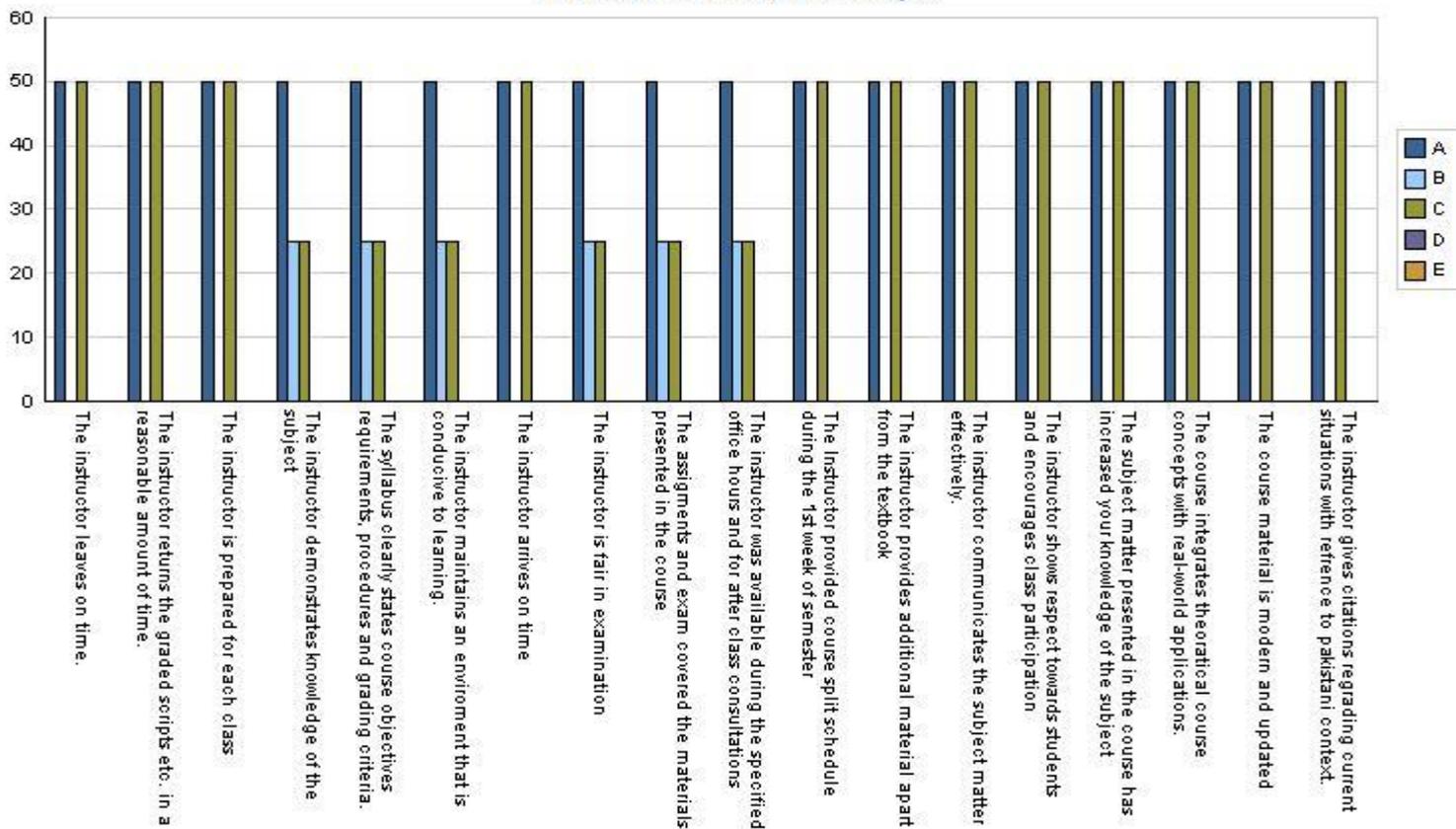
**Session Name: FALL-13**

**Teacher Name: Nasir Jamal**

**Course Name: Applied Survey Sampling**

**Section: A                      M/E: M                      Semester#: 1**

**Teacher Evaluation Graph**



Data were collected from 15 students of M.Phil Statistics Morning; About 50% were strongly agreed 0% were agreed, 50% were uncertain, 0% were disagreed and 0% were strongly disagreed regarding the questions that course split was provided during 1<sup>st</sup> week of semester. 50% were strongly agreed, 0% were agreed, 50% were uncertain, 0% were disagreed and 0% were strongly disagreed that course concepts were clear and applicable. 50% were strongly agreed, 0% were agreed, 50% was uncertain, 0% was disagreed and 0% were strongly disagreed that course material was up-to-date. 50% were strongly agreed, 0% were agreed, 50% were uncertain, 0% were disagreed and 0% were strongly disagreed that instructor was prepared for class. 50% were strongly agreed, 0% were agreed, 50% were uncertain, 0% was disagreed and 0% were strongly disagreed about instructor showed respect towards students. 50% were strongly agreed, 25% were agreed, 25% were uncertain, 0% were disagreed and 0% was strongly disagreed that instructor was available during the specified office hours and after for class consultation.





**Pir Mehr Ali Shah  
Arid Agriculture University**

**Performa 10**

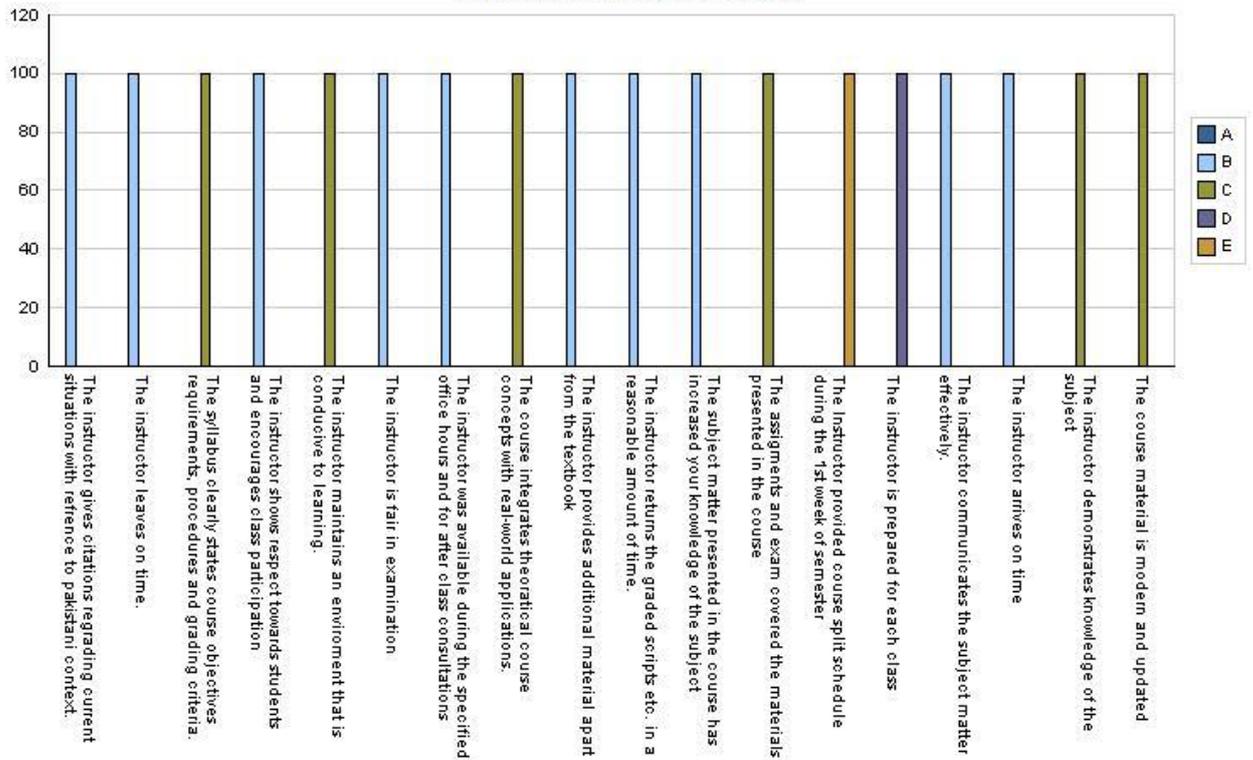
**Session Name:** FALL-13

**Teacher Name:** Nasir Jamal

**Course Name:** Applied Survey Sampling

**Section:** A M/E: E Semester#: 1

**Teacher Evaluation Graph**



Data were collected from 20 students of M.Phil Statistics Evening; About 0% were strongly agreed 0% were agreed, 0% were uncertain, 100% were disagreed and 0% were strongly disagreed regarding the questions that course split was provided during 1<sup>st</sup> week of semester. 0% were strongly agreed, 100% were agreed, 0% were uncertain, 0% were disagreed and 0% were strongly disagreed that course concepts were clear and applicable. 0% were strongly agreed, 100% were agreed, 0% was uncertain, 0% was disagreed and 0% were strongly disagreed that course material was up-to-date. 0% were strongly agreed, 0% were agreed, 0% were uncertain, 100% were disagreed and 0% were strongly disagreed that instructor was prepared for class. 0% were strongly agreed, 100% were agreed, 0% were uncertain, 0% was disagreed and 0% were strongly disagreed about instructor showed respect towards students. 0% were strongly agreed, 100% were agreed, 0% were uncertain, 0% were disagreed and 0% was strongly disagreed that instructor was available during the specified office hours and after for class consultation.

### **Spring- 2014**

According to the Performa 1 and Performa 10, the teachers have been evaluated by the students for the semester Spring 2014.

1. Dr. Muhammad Hanif
2. Dr. Saima Mustafa
3. Mr. Nasir Jamal





**Pir Mehr Ali Shah  
Arid Agriculture University**

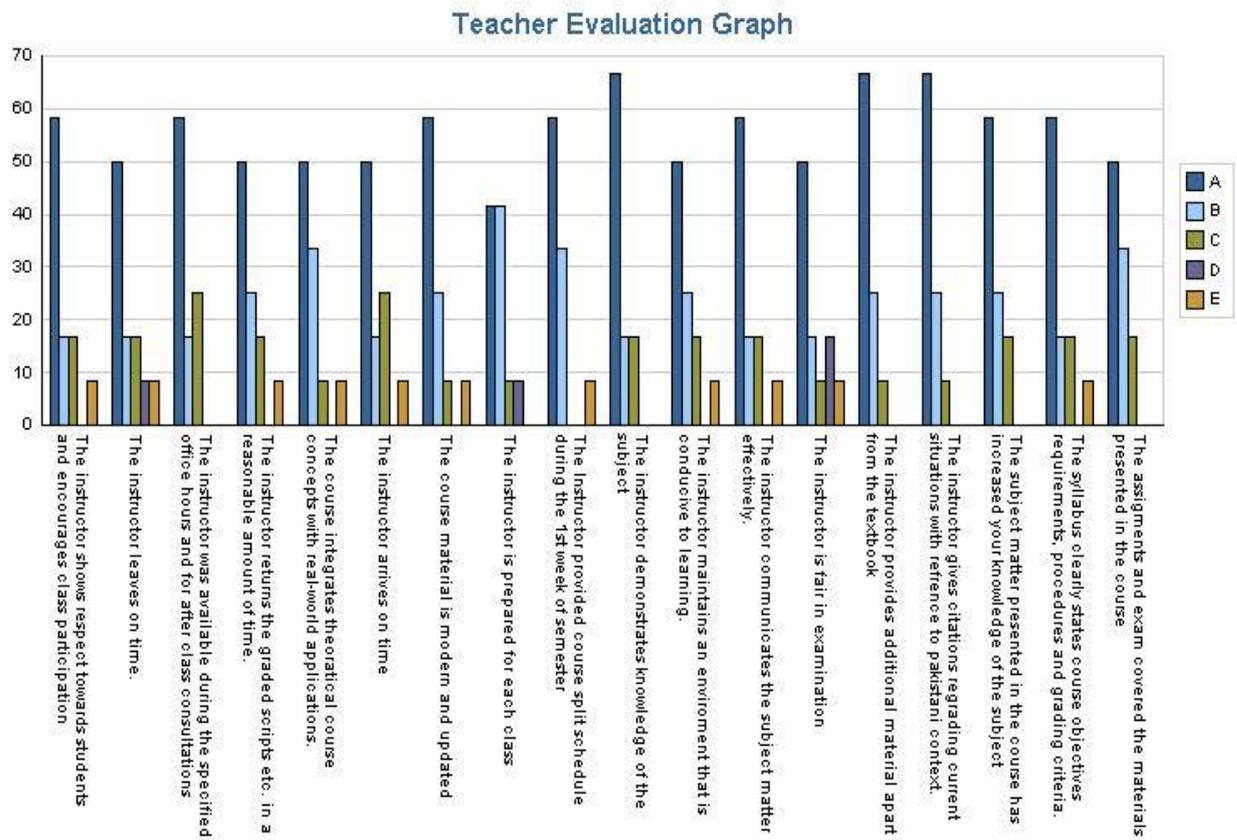
**Performa 10**

**Session Name: SPRING-14**

**Teacher Name: Muhammad Hanif**

**Course Name: Regression Analysis**

**Section: A                      M/E: M                      Semester#: 2**



Data has been collected from 15 students of M. Phil morning. About 58% were strongly agreed regarding the questions that course split was provided during 1<sup>st</sup> week of semester, 50% were strongly agreed that course concepts were clear, applicable and instructor arrives on time, 58% were strongly agreed that instructor show respect towards students , available during the specified office hours and syllabus clearly states course objectives also course material was up-to-date.





**Pir Mehr Ali Shah  
Arid Agriculture University**

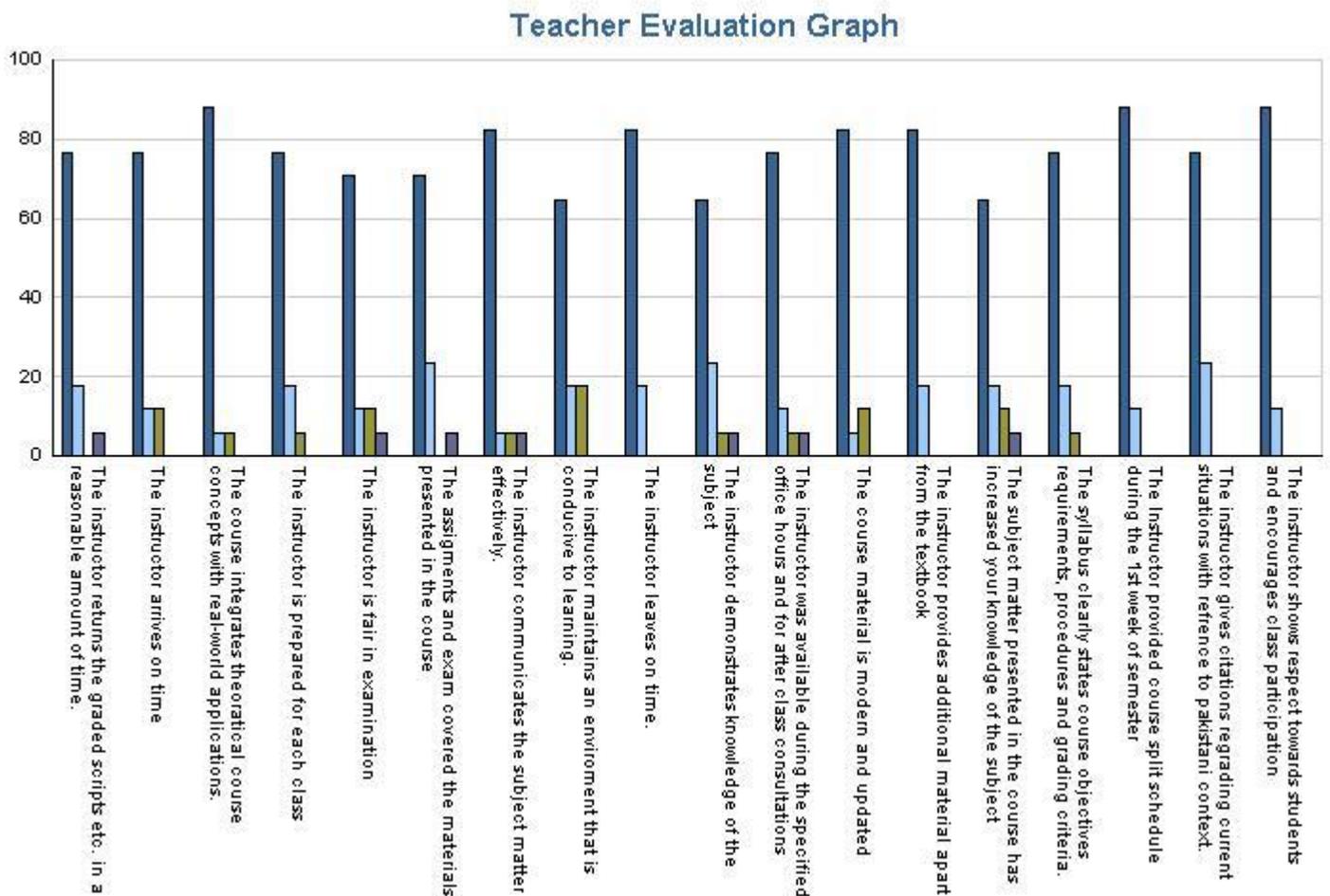
**Performa 10**

**Session Name: SPRING-14**

**Teacher Name: Muhammad Hanif**

**Course Name: Regression Analysis**

**Section: A                      M/E: E                      Semester#: 2**



Data has been collected from 20 students of M. Phil Evening. About 88% were strongly agreed regarding the questions that course split was provided during 1<sup>st</sup> week of semester, instructor show respect towards students, course concepts were clear and applicable, 82% were strongly agreed that course material was up-to-date. 76% were strongly agreed that instructor was available during the specified office hours, instructor was prepared for class and syllabus clearly states course objectives.





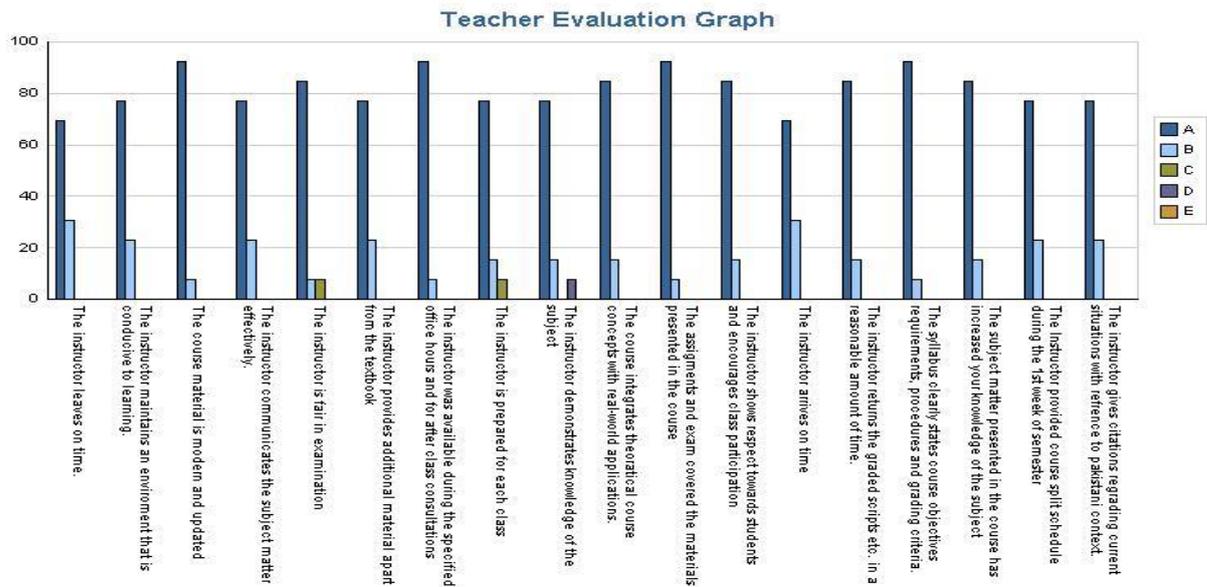
**Pir Mehr Ali Shah  
Arid Agriculture University  
Performa 10**

**Session Name: SPRING-14**

**Teacher Name: Saima Mustafa**

**Course Name: Operations Research Models**

**Section: A                      M/E: M                      Semester#: 2**



Data has been collected from 15 students of M. Phil morning. 100% students were uncertain regarding the questions that course split was provided during 1<sup>st</sup> week of semester. 100% students were agreed that course concepts were clear, applicable. 100% students were agreed that instructor show respect towards students. 100% students were agreed that the instructor was available during the specified office hours and syllabus clearly states course objectives. 100% students were agreed that the course material was up-to-date. 100% students were agreed about instructor arrives on time and 100% are agreed that instructor leaves on time.





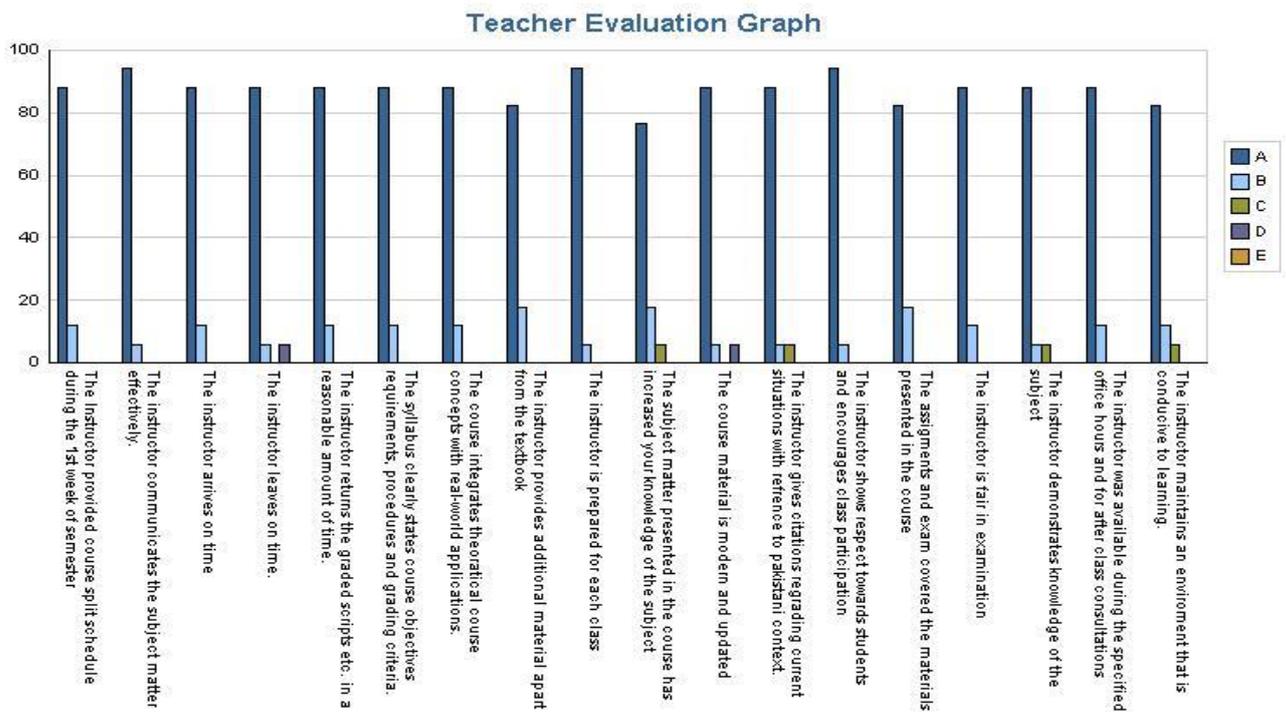
**Pir Mehr Ali Shah  
Arid Agriculture University  
Performa 10**

**Session Name: SPRING-14**

**Teacher Name: Saima Mustafa**

**Course Name: Operations Research Models**

**Section: A                      M/E: E                      Semester#: 2**



Data is collected from 15 students of M.Phil Evening. About 88% were strongly agreed and 12% agreed regarding the questions that course split was provided during 1<sup>st</sup> week of semester, 88% were strongly agreed 12% agreed that course concepts were clear, applicable and instructor arrives on time, 88% were strongly agreed 6% agreed that instructor show respect towards students, available during the specified office hours and syllabus clearly states course objectives also course material was up-to-date.



**Pir Mehr Ali Shah  
Arid Agriculture University**

**Performa 1**

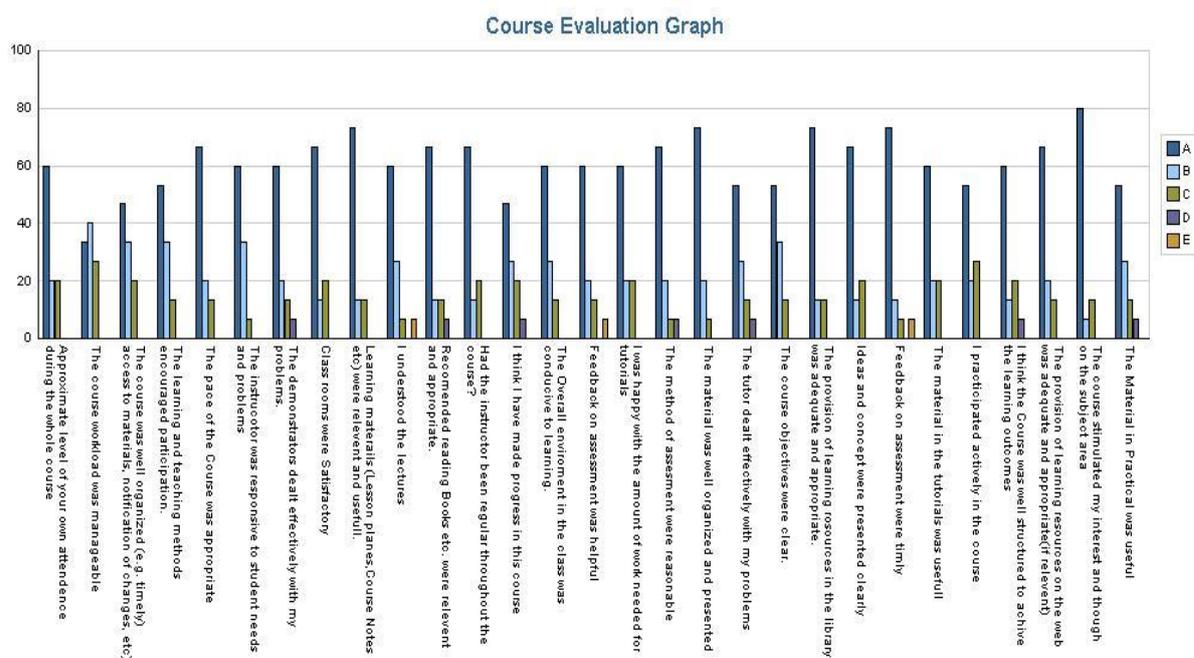
**Session Name:** SPRING-14

**Teacher Name:** Nasir Jamal

**Course Name:** Bayesian Analysis

**Section:** A                      **M/E:** M                      **Semester#** 2

**Class:** M.Phil (Statistics)



Data were collected from 20 students of M.Phil Statistics Evening; about 83% were strongly agreed, 0% was agreed, 17% were uncertain, 0% was disagreed and 0% was strongly disagreed regarding the questions that assessment was timely. 72% were strongly agreed, 17% were agreed, 11% were uncertain, 0% were disagreed and 0% were strongly disagreed that course was progressive. 72% were strongly agreed, 17% were agreed, 11% were uncertain, 0% were disagreed and 0% were strongly disagreed that objectives were clear. 94% were strongly agreed, 0% were agreed, 6% were uncertain, 0% were disagreed and 0% were strongly disagreed that workload was manageable. 72% were strongly agreed, 11% were agreed, 17% were uncertain, 0% was disagreed and 0% was strongly disagreed about the pace of the course was appropriate.



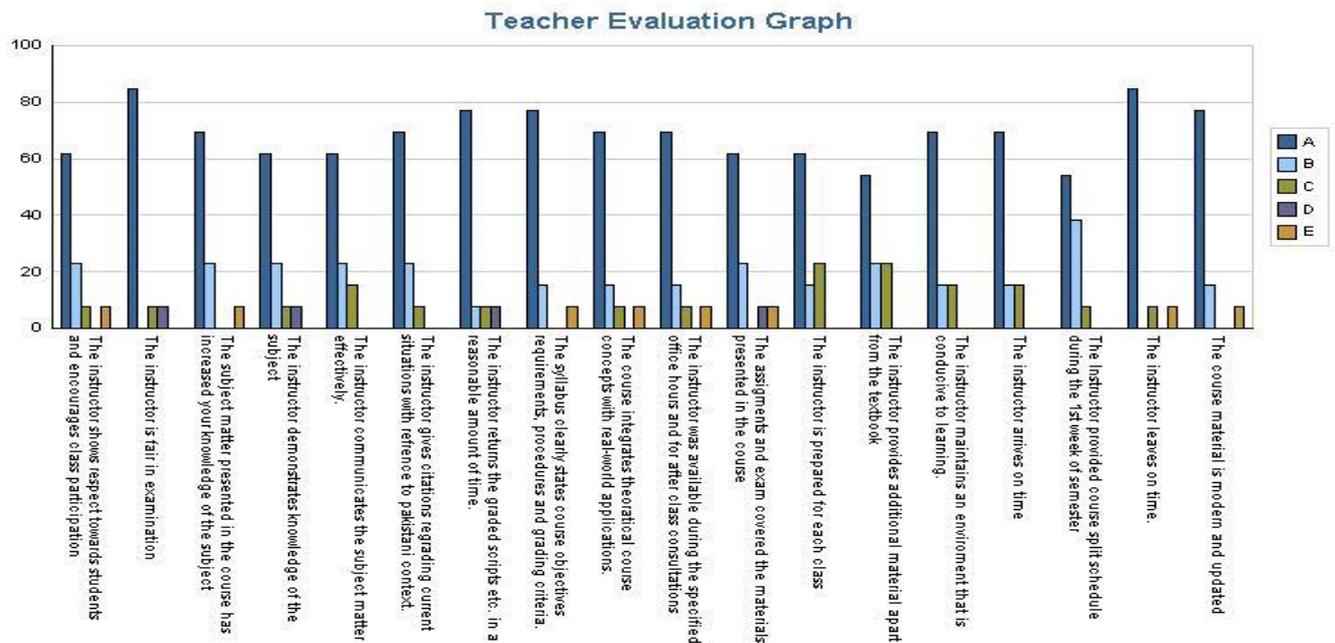
**Pir Mehr Ali Shah  
Arid Agriculture University  
Performa 10**

**Session Name: SPRING-14**

**Teacher Name: Nasir Jamal**

**Course Name: Bayesian Analysis**

**Section: A                      M/E: M                      Semester#: 2**



Data were collected from 20 students of M.Phil Statistics Evening; About 82% were strongly agreed 18% were agreed, 0% were uncertain, 0% were disagreed and 0% were strongly disagreed regarding the questions that course split was provided during 1<sup>st</sup> week of semester. 100% were strongly agreed, 0% were agreed, 0% were uncertain, 0% were disagreed and 0% were strongly disagreed that course concepts were clear and applicable. 100% were strongly agreed, 0% were agreed, 0% was uncertain, 0% was disagreed and 0% were strongly disagreed that course material was up-to-date. 88% were strongly agreed, 12% were agreed, 0% were uncertain, 0% were disagreed and 0% were strongly disagreed that instructor was prepared for class. 88% were strongly agreed, 12% were agreed, 0% were uncertain, 0% was disagreed and 0% were strongly disagreed about instructor showed respect towards students. 100% were strongly agreed, 0% were agreed, 0% were uncertain, 0% were disagreed and 0% were strongly disagreed that instructor was available during the specified office hours and after for class consultation.





**Pir Mehr Ali Shah  
Arid Agriculture University**

**Performa 10**

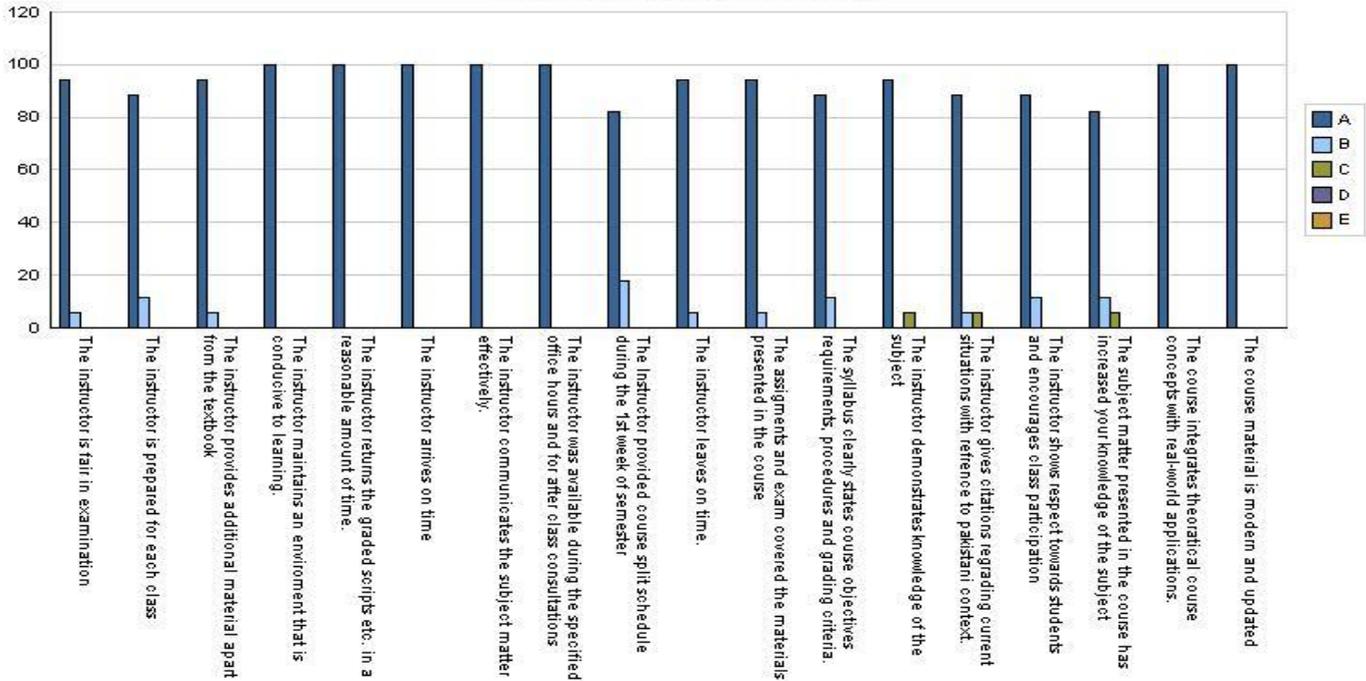
**Session Name: SPRING-14**

**Teacher Name: Nasir Jamal**

**Course Name: Bayesian Analysis**

**Section: A                      M/E: E                      Semester#: 2**

**Teacher Evaluation Graph**



Data were collected from 15 students of M.Phil Statistics Morning; About 54% were strongly agreed 38% were agreed, 8% were uncertain, 0% were disagreed and 0% were strongly disagreed regarding the questions that course split was provided during 1<sup>st</sup> week of semester. 69% were strongly agreed, 15% were agreed, 8% were uncertain, 0% were disagreed and 8% were strongly disagreed that course concepts were clear and applicable. 77% were strongly agreed, 15% were agreed, 0% was uncertain, 0% was disagreed and 8% were strongly disagreed that course material was up-to-date. 62% were strongly agreed, 15% were agreed, 23% were uncertain, 0% were disagreed and 0% were strongly disagreed that instructor was prepared for class. 62% were strongly agreed, 23% were agreed, 8% were uncertain, 0% was disagreed and 8% were strongly disagreed about instructor showed respect towards students. 69% were strongly agreed, 15% were agreed, 8% were uncertain, 0% were disagreed and 8% were strongly disagreed that instructor was available during the specified office hours and after for class consultation.



## Performa 2

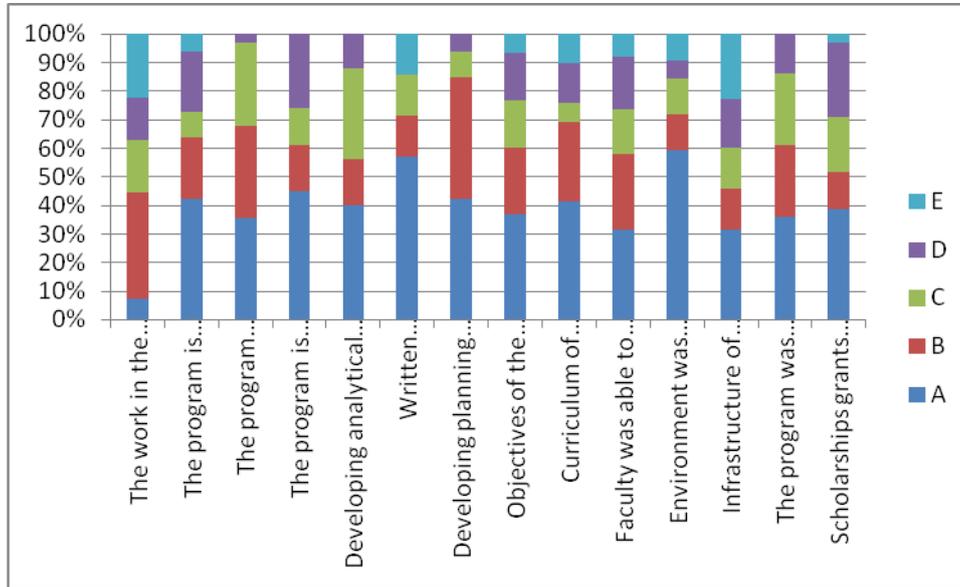
### Faculty Course Review Report

S. No	Course Code	Title	Teacher Name	Semester	Credit Hours	No. of Students	comments on curriculum	Any change for future in course	%Grade				
									A	B	C	D	F
1.	STAT-761	Probability and Stochastic Process	Dr. M. Hanif	Fall-2012-13	3(3-0)	15	Well and updated as per HEC criteria	No	13.33	73.33	13.33	0	3.44
2.	MATH-772	Applied Numerical Analysis(M)	Dr Saima Mustafa	Fall-2012-2013	3(3-0)	15	Well and updated as per HEC criteria	No	2	6	7	0	0
3.	MATH-772	Applied Numerical Analysis(E)	Dr Saima Mustafa	Fall-2012-2013	3(3-0)	20	Well and updated as per HEC criteria	No	0	5	15	0	0
4.	MATH-772	Applied Numerical Analysis(M)	Dr Saima Mustafa	Fall-2012-2013	3(3-0)	15	Well and updated as per HEC criteria	No	2	6	7	0	0
5.	STAT-756	Applied Survey Sampling	Mr Nasir Jamal	Fall-2012-2013	3(2-2)	15	Well and updated as per HEC criteria	No	33	53	7	0	0
6.	STAT-760	Regression Analysis	Dr. M Hanif	Spring-2013	3(3-0)	14	Well and updated as per HEC criteria	No	7.143	71.43	14.29	0	7.143
7.	MATH-773	Operations Research Model(M)	Dr Saima Mustafa	Spring-13	3(3-0)	15	Well and updated as per HEC criteria	No	3	11	1	0	0

8.	MATH-773	Operations Research Model(E)	Dr Saima Mustafa	Spring-13	3(3-0)	20	Well and updated as per HEC criteria	No	1	11	5	1	0
9.	STAT-761(M)	Probability and Stochastic Process	Dr M Hanif	Fall-2013-14	3(3-0)	15	Well and updated as per HEC criteria	No	73.33	26.67	0	0	0
10.	STAT-761(E)	Probability and Stochastic Process	Dr M Hanif	Fall-2013-14	3(3-0)	20	Well and updated as per HEC criteria	No	50	35	15	0	0
11.	MATH-772	Applied Numerical Analysis(E)	Dr Saima Mustafa	Fall-2013-14	3(3-0)	20	Well and updated as per HEC criteria	No	0	5	15	0	0
12.	STAT-760(E)	Regression Analysis	Dr M Hanif	Spring-14	3(3-0)	18	Well and updated as per HEC criteria	No	30	25	30	5	5
13.	STAT-760(M)	Regression Analysis	Dr M Hanif	Spring-14	3(3-0)	15	Well and updated as per HEC criteria	No	6.667	93.33	0	0	0
14.	MATH-773	Operations Research Model(M)	Dr Saima Mustafa	Spring-14	3(3-0)	15	Well and updated as per HEC criteria	No	11	1	0	0	0
15.	MATH-773	Operations Research Model(E)	Dr Saima Mustafa	Spring-14	3(3-0)	20	Well and updated as per HEC criteria	No	11	5	1	0	0
16.	STAT-754(E)	Bayesian Analysis	Mr Nasir Jamal	Spring-14	3(3-0)	20	Well and updated as per HEC criteria	No	45	25	25	0	5
17.	STAT-754(M)	Bayesian Analysis	Mr Nasir Jamal	Spring-14	3(3-0)	15	Well and updated as per HEC criteria	No	47	53	0	0	0

### Performa 3 Survey of Graduating Students

Data were collected from 70 students. The goal of this survey was to obtain the input on the quality of education they received in their program and level of preparation they had at the university. The results were shown as follows.



The chart shows that 40% of the students were very satisfied regarding the scholarship grant and 60% were satisfied regarding environment in the university was conducive to learning and 10% were certain about this. 30% were satisfied that program was very effective in developing their written communication skills and 40% were responded satisfied regarding their analytical approaches. It has also been observed that graduating students showed their positive response on the current curriculum, infrastructure and environment.

**Performa 4**  
**Research Student Progress Review Form**

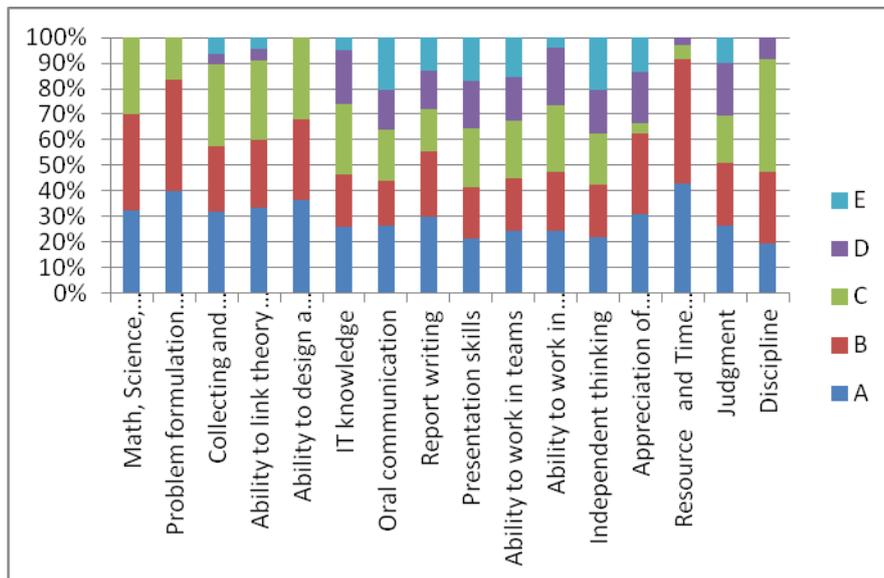
A total of 70 students of M.Phil were surveyed. Most of the students were satisfied on the level of supervision they received. About 55% students have highlighted the common problems such as the problems regarding to the availability of qualified teachers, deficiency of learning resources including lack of research materials computers and internet conditions.

**Performa 5: Faculty Survey Report**  
**Brief summary of Results of Faculty Survey Report**

The data were collected from three faculty members who answered the following responses regarding the different questionnaires. As concerned to job satisfaction level and promotion aspects, the faculty members responded that 70% of faculty members were very satisfied, 30% satisfied, 30% uncertain, with their job clarity and upgrading procedures. Apart from this, most of the faculty members were satisfied with the healthy environment such as the cooperation received from their colleague, job security. Besides this, most of the faculty members feel deficiency regarding the administrative support from the department and their promotion and progress through ranks.

### Performa 7: Alumni Survey

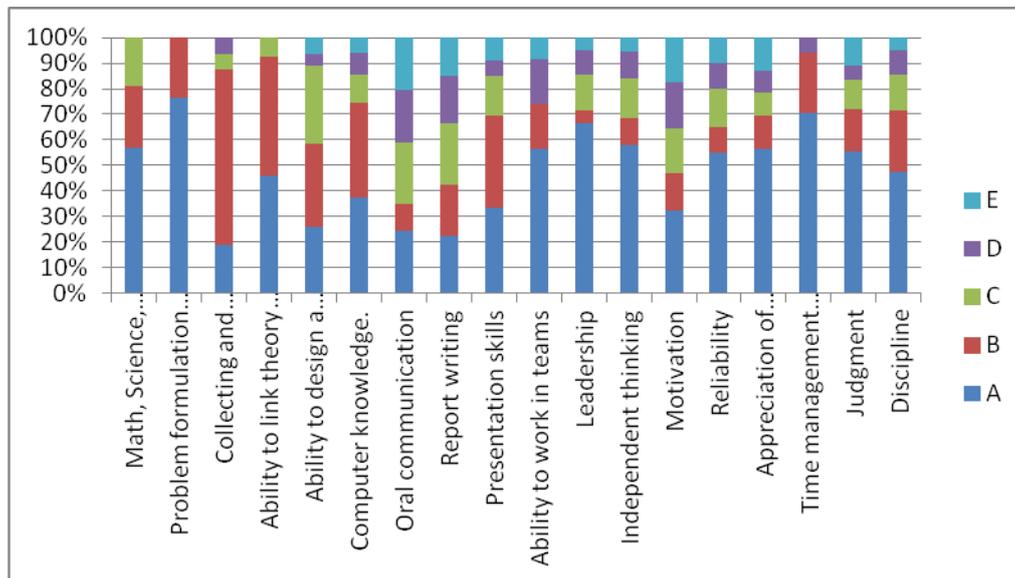
The purpose of this survey was to obtain alumni input on the quality of education, knowledge and communication and Interpersonal skills they received and the level of preparation they had at University. A total of 70% alumni were surveyed. The survey results were shown as follows.



It has been observed that 50% responded excellent regarding their abilities to link theory work with practice, 10% responded good. As concerned their ability to work in team 30% has reported excellent, 30% responded good. Apart from this their abilities to work in problem formulation and department has improved their oral communication skills by 40%. 30% responded excellent their written communication and IT skills.

### Performa 8: Employer Survey

The objective of this survey was to obtain employers input on the quality of education, the department is providing and to assess the quality of the academic program. The survey included University graduates employed in different organizations. A total of 80% employers provided the data. The results were shown as follows.



The above chart shows the responses of the employers interest in Math, Science, Humanities and professional discipline are as 60% excellent, 10% very good in interpersonal skills and time managements skills. 60% responded excellent their appreciation to ethical values. In addition to this, 70% responded excellent on time management skills and leadership qualities.

## **CRITERION 2: CURRICULUM DESIGN AND ORGANIZATION:**

### **Degree Title M. Phil (Statistics)**

The M.Phil degree program consists of 02 academic years / 04 semesters. Ordinarily a whole time student cannot be enrolled for more than 18 and less than 10 credits in a semester except during the last semester. The credits will include the credits earned in respect of deficiency courses. As a whole a student has to study minimum 24 or 30 credit hours and 10 credit hours allocated for the thesis which is not be counted towards calculation of CGPA. For each course 10% marks are reserved for the assignments, 30% marks are for mid-term examination while 60% marks for final examination as per university rules. Degrees are awarded after completing the required number of credit hours (courses).

The break of 40 credit hours for the award of degree of the Master of Philosophy is as follows:

<b>Major Courses:</b>	18 Credit Hours
<b>Minor Courses:</b>	9 Credit Hours
<b>Seminar-I</b>	1 Credit Hour
<b>Seminar-II</b>	1 Credit Hour
<b>Special Problem</b>	1 Credit Hour
<b>Research Work/Thesis/ Dissertation</b>	10 Credit Hour
<b>Total</b>	40 Credit hours



**Standard 2-7: Information technology component of the curriculum must be integrated throughout the program.**

The Practical oriented information technology courses are included in the curriculum. These courses help the students to do research not only in their curriculum problems but also make them to do social research, communicate with the society and describe the problems faced by the people statistically and find their solution.

**CRITERION 3: LABORATORIES AND COMPUTING FACILITIES**

There is only one Computer Laboratory in the department with 25 computers.

**Objectives**

Computer Laboratory is used for practical exercise and demonstration to graduate and M.Phil students in their introductory and major courses.

**Location and Area:**

Faculty of Sciences, Department of Statistics, 1<sup>st</sup> floor, New Academic Block.

**Adequacy for instruction:**

Instruction tools like multimedia are available.

**Software Available:**

- SPSS
- MSTAT
- Minitab
- Mathematica

**Safety Regulations:**

Safety measures are unavailable against fire (extinguisher), minor hazards and accidents, injuries (First Aid Kit). However, the university maintains a Medical Dispensary for such incidents.

**Standard-3.1: General Computer Labs**

- Software Manuals of each subject are not available.
- The department library is not established so far. However, individual teachers have prepared some manuals and mini library in the department.

**Standard-3.2: There must be support personal for instruction and maintaining the laboratories**

Laboratories are maintained by only two Laboratory Attendant and one laboratory assistant.  
No technical assistance is available.

**Standard-3.3: The University computing infrastructure and facilities must be adequate to support program's objectives**

- **Computing Facilities Support:** Computer facilities is available to all Faculty members and the M.Phil students.
- **Shortcoming in Computing infrastructure:** Laboratory technician is required for computer Lab. Computers with internet updated facilities should be available to all M.Phil students.
- **Safety arrangements:** There is no proper safety arrangement and no security plans are in the case of emergency. The department is located on the 1<sup>st</sup> floor; there is no emergency exit for the lab and classroom. No fire extinguishers have been installed in any laboratory. No first aid kits/ facilities provided in the laboratory/ department.

**CRITERION 4: STUDENT SUPPORT AND ADVISING**

The faculty of the department of Statistics has always been of great support and help for the students. The teachers are always present for any kind of guidance to the students in any respect of life. To meet this criterion, the department satisfies all the respective standards.

**Standard-4.1: Courses must be offered with sufficient frequency and number for students to complete the program in a timely manner**

- All the courses including the courses at M.Phil level, the elective and supportive courses are taught as per policy of HEC.
- Elective courses are offered as per strategy of HEC and the university. The courses from outside the department are also offered as per scheme of study provided by HEC.
- For M.Phil Programs, a variety of courses are offered according to demand of the profession.

**Standard-4.2: Courses in the major area of study must be structured to ensure effective interaction between students, faculty and teaching assistants.**

- In the Statistics department, normally for the courses consisting of theory as well as practical, same instructor is employed so that the problems can be minimized.

- However, different faculty members may teach same course to different disciplines. In such cases, faculty meetings are conducted to communicate and interact with each other and the course contents are decided with mutual consent.
- To ensure effective interaction between students, faculty and teaching assistants at the time of course formulation both theoretical and practical aspects are focused.
- Theoretical problems are explained and assignment is also given to the students whereas practical are carried out in the lab.
- Emphasis is always given for an effective interaction between each section.

**Standard-4.3: Guidance on how to complete the program must be Available to all students and access to qualified advising must be available to make course decisions and career choices.**

Several steps have been taken to provide students guidance such as:

- Many student support programs regarding admission, scholarship schemes, etc. are offered by the university.
- Department in its own capacity arranges orientations, welcome and farewell get together, study visits and various cultural activities.
- The teachers prove to be a big parental support for the students and are helpful in solving students' problems, however currently there is no parent teacher association.
- Students are informed about the program requirement through the office of the head of the department.
- Director, Student Affairs are appointed by university who is ready to help the students for tutorial and counseling for extracurricular activities. However there is no counseling cell in the department.
- Realizing the need for exploring job opportunities for the university graduates, Directorate of placement bureau has been established.

**Weaknesses:**

- Student advisory committee should be formed at the departmental level.
- Departmental seminars should be conducted for the students to interact with the other universities and outer world.

## **CRITERION 5: PROCESS CONTROL**

The department exercises quality control in all the processes by which major functions are delivered. As the student becomes the responsibility of the department right after the admission, the process starts from his admission and registration leading towards the end of the academic years and even after that. It is the department's duty to maintain quality control in every process of the education life of the student for which some standards should be met:

### **Standard-5.1: The process by which students are admitted to the program must be based on quantitative and qualitative criteria**

- The applications of the candidates are accepted within the due date of admission announced by the university in an advertisement in the newspapers.
- Number of seats available in the discipline is approved by the Academic council.
- The student seeking admission in M.Phil, the candidate having M.Sc degree with minimum 45% marks in the relevant subject.
- The process of admission is a reputable process and is followed as per rules and criteria set by the university. For this purpose an advertisement is given in the national newspapers by the Registrar office which announces the date of the merit lists.
- The lists are displayed right after the completion of whole processes. The selected students are offered register their names after paying the fee dues.

### **Standard-5.2: The process by which students are admitted to the program must be clearly documented. This process must be periodically evaluated to ensure that it is meeting its objectives**

- After the submission of fee, the student names, after completion of the admission process, are forwarded to the registrar office for proper registration in the specific discipline and registration numbers are issued to the students.
- Students are evaluated through Mid, Final and Practical exams and through assignments and different research proposals. Subject Quizzes are also helpful for the evaluation of capabilities of students.
- Evaluation is done through the result of each semester, if the students fulfill criteria of the university; they are promoted to the next semester.

- At the end of course work, a comprehensive examination followed by a viva voce held for M.Phil students. The students passing the exam are considered recommendable to award the degree.
- In general, the students are registered on competition bases keeping in view the academic and research standards.

**Standard-5.3: The process by which students are registered in the program and monitoring of students progress to ensure timely completion of the program must be documented. This process must be periodically evaluated to ensure that it is meeting its objectives**

- Recruitment policy followed the university is recommended by HEC induction of all posts is done as per rule. Vacant and newly created posts are advertised in the national newspapers, applications are received by the registrar office.
- Call letters are issued to the short listed candidates on the basis of their experiences, qualification, publications and other qualities / activities as fixed by the university.
- The candidates are interviewed by the university selection Board. The candidates having any previous experience, publications or any additional qualification are entertained. Principal and alternate candidate are selected on merit.
- Syndicate meeting is held for further orders such as when to issue appointment letters to the employees.
- Induction of new candidates depends upon the number of approved vacancies.
- Standard set by HEC are considered.
- At present, no procedure exists for retaining highly qualified faculty members, however, the revised pay scales of structures is quite attractive.
- HEC also supports appointment of highly qualified members as foreign faculty professor, National Professors and deputed them in various departments of the university.

**Standard-5.4: This process must be periodically evaluated to ensure that it is meeting its objectives.**

- As it has already been mentioned that the department of statistics has excellent teachers who educate the students with the view of imparting true knowledge.
- The teachers teach in a friendly way and revise and update the curriculum as required.
- The students are taught with the help of overheads, slides, pictures etc.

- Although the subject books from the authentic authors are hardly available in the library but their cheap Asian editions are available in the markets. Teachers also provide the students with photo state copies of some important books, documents and notes.
- Teachers prepare their lectures from the books and updated knowledge available and deliver them to students. Students are also given small research assignments, which, the teachers know that they can go through with the help of literature and internet facility available in the university library
- Seminars are also being conducted at small level so that to motivate and guide the students to do research. One seminar has been scheduled at departmental level.
- The updating of knowledge is very important. With the emergence of new fields, new courses are being set and included in the curriculum

**Standard-5.5: The process of recruiting and retaining highly qualified faculty members must be in place and clearly documented**

- The evaluation of the students' capabilities is a continuous process which carries on throughout the academic years. The evaluation procedure consists of quizzes, mid and final examinations, practical formulas, assignments and reports, oral and technical presentations.
- At the end of the academic years, the final examinations are held after which, the result is notified. The exams are taken to assess the capabilities of students by asking applied questions and problems about the different dimensions of the subject which help the students to be completely evaluated. Only the students passing this exam are awarded the degree.
- Candidates who secure 80% or more are awarded a gold medal are awarded to the students on the annual convocation that is held late every year.

### CRITERION 6: FACULTY

**Standard 6-1: There must be enough full time faculty who are committed to the program to provide adequate coverage of the program areas/courses with continuity and stability**

**Table 7: Faculty Distribution by Faculty Specialization**

S. No.	Name	Position	Qualification	Specialization
1	Dr. Muhammad Hanif	Associate Professor	P.hD	Probability and Stochastic Analysis
2	Dr. Saima Mustafa	Assistant Professor	P.hD	Complex Analysis
3	Mr. Nasir Jamal	Assistant Professor	M.Phil.	Statistical Methods, Survey Sampling,

The department faculty currently consists of one Associate Professor and two Assistant Professors. Most of the faculty members are improving and updating their qualifications in different PhD research programs. However, the department is in short of teaching faculty as two of the members are on study leave.

**Standard 6-2: The interests and qualifications of all faculty members must be sufficient to teach all courses, plan, modify and update courses and curricula.**

As mentioned earlier, most of the faculty members are busy in improving their qualifications. So far, one of the members has completed the PhD research and has joined back the department and two of them are busy in different research programs in renowned institutes both inside and outside the country.

All the faculty members completing their researches were given study leaves and were fully accommodated by the department and university.

Any faculty member if interested in improving his/her education can avail any and every available chance. Full accommodation from the department is provided.

The faculty members are being evaluated on regular basis by the students.

The initialization of M Phil classes is not only a big encroachment for the students but is and will be great help to the teachers.

**Standard 6-3: All faculty members must have a level of competence that would normally be obtained through graduate work in the discipline. The majority of the faculty must hold a Ph.D in the discipline**

Meanwhile, three regular faculty members are working in the department. The department activities are being carried out with the help of visiting faculty. As mentioned earlier, any faculty member if interested in any research or education improving program is fully and immediately supported.

The department maintains excellent working environment for the faculty members. There is complete cooperation amongst them. Teachers are being evaluated by the graduates to obtain the input on the quality of education university is providing and the results are satisfying. Teachers of the department are actively engaged in imparting quality education. So far, the faculty members of the Stats department have cooperated in every step taken by the university to obtain the program objectives. They are always interested in improving the quality of education and departmental competence.

### **CRITERION 7: INSTITUTIONAL FACILITIES**

The university has one central library which is facilitated with books and literature about the subject.

#### **Standard- 7.1: The institution must have the infrastructure to support new trends in learning such as e-learning**

The subject of statistics shares number of fundamentals with mathematics, economics and computer science, so the subject needs a constant update of knowledge. To be updated in the different theories and methodologies, the facility of internet is an essential component.

The faculty members of the Stats department are always prepared to be innovative and experimental in their subject. They like to have access to new and authentic soft wares which are helpful in studying theories and concepts of subject e.g. MSTAT, SPSS, Minitab and Eviews etc.

#### **Weaknesses:**

- The library has in sufficient literature available. Prestigious and high ranked journals are hardly available so there is difficulty in developing research culture.
- Recommended books of the program are not available to the students.
- The departmental computer lab has been facilitated with the internet capacity .
- The same facility should be provided to the faculty offices.
- A departmental library should be established which should contain all the significant literature about the subject.



**Standard- 7.2: The library must possess an up-to-date technical collection relevant to the program and must be adequately staffed with professional personnel**

- The library has a computer lab consisting of 25 personal computers. The lab has been facilitated with the internet facility.
- The access to various web sites of prestigious research journals and publications e.g. Jstor, ACM and IEEE provided by HEC is also available in the lab. Electronic library books and journals are available for learning purpose via Higher Education Commission.

**Weaknesses:**

- The personal computers available are not enough for the needs to be fulfilled.
- The library must possess an up-to-date technical collection relevant to the program and must be adequately staff with professional personnel.

**Standard- 7.3: Class-rooms must be adequately equipped and offices must be adequate to enable faculty to carry out their responsibilities**

- The department has one personal class room and one room is being shared up with economics department. As mentioned earlier, there is one computer lab in the department equipped with 25 personal computers.
- The faculty offices are also not sufficient to accomplish the requirements of all the faculty members.

**Weaknesses:**

- The lab is not fully equipped with all the facilities.
- Insufficient classrooms available because of which we have to use the computer lab instead of classroom.
- Class rooms must be adequately equipped and offices must be adequate to enable faculty to carry out their responsibility.

### **CRITERION 8: INSTITUTIONAL SUPPORT**

Although the institute is fully supportive and cooperative but the financial resources in this respect are insufficient. Let us study the standards to meet this aspect.

#### **Standard 8.1: There must be sufficient support and financial resources to attract and retain high quality faculty and provide the means for them to maintain competence as faculty and scholars**

- The university is always ready to provide every opportunity available to the faculty members to improve their qualifications and upsurge their careers. Half of the faculty members of the Stats department are on study leave to improve their qualifications.
- The department environment is extremely friendly and comfortable. All the faculty members move with complete harmony and are very accommodative with each other. The courses are assigned with the total consent of the teacher.
- Faculty offices are well constructed, large and airy.
- The departmental lab has one lab attendant.

#### **Weaknesses:**

- Because half of the members are on leave, the department is in need of qualified teachers and scholars.
- Insufficient secretarial support, technical staff and office equipment.
- The number of faculty offices as mentioned earlier is insufficient for the members.
- Due to unavailability of class rooms, classes are taken in the labs.

#### **Standard 8.2: There must be an adequate number of high quality graduate students, research assistants and Ph.D students.**

The number of graduates in the last two years is given as:

**Table8: Quantitative Assessment of the Department (Last Two Year)**

<b>Sr. #</b>	<b>Particular</b>	<b>No</b>	<b>Remarks</b>
1.	M. Phil. Degree awarded	Nearly 70	35 students joined. M.Phil. Program at different universities
2.	Students : Faculty ratio	1:3	Does not fulfill HEC criteria
3.	Technical : Non Technical ratio	1:2	Does not Fulfill HEC criteria
4.	High Quality Graduate Students, PhD students, Research Assistants		Research papers and seminar

However, there are research publications and seminars conducted by the department.

**Standard- 8.3: Financial resources must be provided to acquire and maintain Library holdings, laboratories and computing**

The financial resources provided by the university to the department for stationary, the maintenance of the computer laboratory and purchase of consumable items and books for the years 2012-2014 are almost 50,000.

## SUMMARY

The quality assessment program of the department of Mathematics and Statistics and for the year 2012-14 has been reported. The department has also shown progress in the past few years. The mission and program objectives have solidly been followed within the certain limitations. Currently, three faculty members of the department are on duty in the department and two of the members are on study leaves for their PhD degrees completing the higher research programs in different universities.

The department progress and objective are analyzed by program team of the department through course evaluation, teacher evaluation, alumni survey, graduating student surveys and faculty survey. The data were collected and analyzed and presented in the form of graphs and tables. The charts of present report highlighted the different assessment performance of different teachers evaluated by the students. The evaluation of the teachers has been carried out using students' opinions. It is noticed that all the teachers have been evaluated for all the different criteria using Performa 1 and 10 and have been proved to be appropriate and good for almost all of them. The results are satisfactory, good and fair for most of the questions. It has been observed from graphs and charts that students are satisfied with the present performance of the teachers. Most faculty members are very unbiased and punctual in their lectures. The students are also satisfied the fairness of the examination, and teacher supervisions. Students have also showed positive response on scholarship grants and financial support from the university. Besides this, the limited no of lecture room, but computer laboratory infrastructure is updated by new computers and internet resources. There is still problem to access to various scientific journals such as jstore, science direct etc. According to employer survey, the department has produced qualified statistician with broad knowledge and most of them are designated on good jobs. Their jobs are good and their degrees proved to be beneficial in their future careers. As concerned to Faculty members, they are satisfied with their job environment but still they have faced the major workload problem.

The performance of the department may be further improved considering;

- Qualified faculty is required for the improvements of the department, as in future the department intends to start the Ph.D Statistics programs as well.
- At present there are no professional training for faculty members. Training programs and workshops at international and national levels are required.
- The departmental computer lab need latest internet facilities such as accessing of different research websites and availability of latest softwares .Improvement in this area will also enhanced the level of research and teaching.

**Performa 9:****FACULTY RESUME**

Name:	Dr. Muhammad Hanif
Personal:	Father Name: Siraj Din Marital Status: Married Nationality: Pakistani National ID: 35404-5292007-3 Email: <a href="mailto:hanif@uair.edu.pk">hanif@uair.edu.pk</a> <a href="mailto:mhpuno@hotmail.com">mhpuno@hotmail.com</a> Phone: +92-51-9290016
Experience:	12 year
Honors and Awards	Chinese Govt Scholarship
Memberships	no
Graduate Students Postdocs Undergraduate Students Honor Students	yes
Service Activity	Teaching, Research
Brief Statement of Research Interest	Limit theory in probability and large sample theory in statistics. Statistical Inference for Stochastic Processes
Publications	8
Research Grants and Contracts	no
Other Research or Creative Accomplishments	no
Selected Professional Presentations	no

## FACULTY RESUME

Name:	Dr. Saima Mustafa
Personal:	P-1538 Asghar Mall Road Rwp. <a href="mailto:saimamustafa28@gmail.com">saimamustafa28@gmail.com</a> 0333-5249362
Experience:	15 years
Honors and Awards	COMSATS Scholarship in PhD
Memberships	Board of Faculty (Sciences) Board of Study Department of statistics Admission Committee ,Department of Statistics Comprehensive Committee, Department of statistics
Graduate Students Postdocs Undergraduate Students Honor Students	M.Phil Statistics Supervision = 11 students Co-supervision = 4 .
Service Activity	Teaching, Research
Brief Statement of Research Interest	<ul style="list-style-type: none"> <li>➤ Geometric Function Theory</li> <li>➤ Complex Analysis</li> <li>➤ Optimization Theory</li> <li>➤ Numerical Analysis</li> <li>➤ Operations Research</li> </ul>
Publications	6
Research Grants and Contracts	-
Other Research or Creative Accomplishments	As described above
Selected Professional Presentations	Workshops, seminars

## FACULTY RESUME

Name:	NASIR JAMAL
Personal:	Designation: Assistant Professor S/o Khalil-ur-Rehman, DOB: 11 <sup>th</sup> January, 1963
Experience:	Survey and Research: 18 years, Teaching: 3 Years
Honors and Awards	No.
Memberships	11
Graduate Students	3
Postdocs	-
Undergraduate Students	-
Honor Students	-
Service Activity	Teaching
Brief Statement of Research Interest	Ridge Regression, Modeling,
Publications	2
Research Grants and Contracts	No
Other Research or Creative Accomplishments	No
Selected Professional Presentations	No