

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



SELF ASSESSMENT REPORT 2010-12
Department of Entomology
M.Sc. (Hons.) Entomology

Program Team

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Introduction

Entomology deals with the insects which comprise more than two third of animals living on earth with 1.3 million known species and are considered as one of the most primitive creatures which date back 400 million years. Insects are many relations with crop plants, animals and human beings. Entomology as a science of insects deals with all aspects of insect life, biology, physiology, ecology and biosystematics and different other fields. The Department of Entomology started work in 1986 along with the establishment of Agriculture College, Rawalpindi. With the upgradation of College to the University in 1994, B.Sc. (Hons) agriculture program was started in it. In 1997 and 1998, M.Sc. (Hons) and Ph D agriculture programs were started, respectively.

Pakistan has a diverse agriculture system in different agro ecological zones and Entomology plays an important role in the management of different insects to save the farming community from crop losses both in the field and storage structures. Moreover it has also gained importance in the management of household insects particularly termites, cockroaches and mosquitoes. The role on Entomologists in the control Dengue fever in the country during last few years is remarkable. Department of Entomology periodically reviews its curriculum keeping in view its mission and objectives, to speed the pace of development and meet the challenges of farming communities other stakeholders. The main focus of the departmental activities is enhancement of students' professional training and career opportunities. For this purpose different field visits, national and international seminars and workshops are held regularly to address the current issues of crop protections and post harvest losses by insects.

As provision of quality education and result oriented research in the field of agriculture is the basic aim of the department, along with teaching activities a number of research projects are going on in the department with the help of Higher Education Commission and Pakistan Science Foundation. Present report is based on departmental activities both in the field of education and research in collaboration with QEC to achieve the stipulated results as per plan of the university and the Higher Education Commission, Islamabad. The current self assessment report comprises of eight sub-sections (criterion). The first section outlines the programme mission and objectives. Section 2 provides information about the curriculum development. Section 3 enlists the laboratories and other relevant information followed by student support and guidance. The last four sections provide information about student support, process control, faculty characteristics and institutional facilities and support provided by the university.

Criterion-1: Programme Mission, Objectives and Outcomes

Entomology is the study of arthropods belonging to class insecta. Insects are more abundant in nature both as number and diversity as compared to any other creature. They have got importance due to different roles as pollinators, scavengers, predators, crop pests, vectors and carriers of different diseases and human and livestock pests. Scientists consider insects as one of the most successful creature on the earth. The field of entomology covers all harmful and beneficial aspects of insects. Beneficial role of insects involves pollination, predation of harmful insects, parasitism of harmful insects and production of useful products like honey, royal jelly, propolis, silk and lac etc. Integrated and sustainable management of insects pests of field crops, vegetables, tropical and hill fruits, ornamental plants, stored grains, households by the use of modern and most appropriate techniques by using safer and judicious pesticides is a key component of entomology. In case of medical discipline, entomology is playing a key role in healing of wounds by application of sterile maggots which are otherwise difficult to heal specially in diabetic patients. Likewise environmental pollution, biodiversity and insect resistance against the pesticides are the burning issues of today which warrant continuous processes of education and research. Advanced education to the students at PhD level, in this specialized field, involves the use of modern/advanced teaching methods and innovative analytical techniques for insect pest problem solving attitudes and techniques establishment. Application of applied knowledge regarding pest management not only reduces enormous losses due to insect pests, lessen pollution hazards and develop a sustainable and substantially profitable production system for the farmers.

Standard 1-1: The program must have documented measurable objectives that support institution mission statements

During the reporting period the MSc program has been producing a cadre of highly skilled manpower well equipped with the theoretical and practical knowledge and techniques concerning both the basic and field (applied) issues of entomology. This post-graduate (MSc Hons) cadre of technical manpower serves in all the government and private sectors like research, education, planning & execution and extension sub-sectors. The technical field areas of entomology are; identification and management of major insect pests of agricultural crop, vegetables and fruits; stored commodities pests, pesticide use and allied issues, and the beneficial insects like natural enemies of insect pests, pollinators and those producing products like honey, silk and lac etc.

Documented measurable objectives

The department of Entomology offers MSc (Hons) Entomology degree to cater highly skilled local manpower for future needs at national and international level. The students of this program complete their course work along with their research project and the thesis. Research areas are mostly related to issues of regional, national and to some extent international level.

Objectives of Entomology program are given as under.

1. To yield highly skilled manpower equipped with both the theoretical as well as applied knowledge relating to the Entomological studies.
2. To make aware and educate them about most recent and effective techniques of IPM (Integrated Pest Management) in various crop system.
3. To produce a cadre of students having potential to work effectively in a research, education, and extension setups to generate high level outputs.
4. To enable the students to become an efficient, job-oriented and dedicated professional to perform for the betterment of community and the country.
5. To coach the students in order to make them delivering individuals in social and economic aspects of agriculture and the society in a harmonized way to produce a better index of cost and benefits of farming community and also in the context of sustainability of healthy and safe environment.

Main elements of strategic plan to achieve the mission and objectives

- Planning and implementation of an efficient teaching system based on practical knowledge and expertise gathered from different sources for overall education and training of the students.
- Periodic review and improvement of the curricula involving core subjects related to present pest problems and their solutions.
- Establishing and strengthening well-equipped research laboratories to conduct good level research.
- Execution of research projects funded by the universities and other donor agencies.
- Provocation of linkages with national and international research organizations to solve indigenous problems relating to research.

PROGRAM OBJECTIVES ASSESSMENT

The department monitoring system is focused on the lines:

- Student-Teacher interaction
- Students views for program/faculty
- Critical analysis and policy formulation for development of infrastructure
- Periodic review of the target achievements at department level

Table: 1 Program Objectives Assessment

S. #	Objective	How Measured	When Measured	Improvement Identified	Improvement made
1	To yield highly skilled manpower equipped with both the theoretical as well as applied knowledge relating to the Entomological studies.	Getting views of MSc students based on different activities being carried out at department level regarding teaching, research and management at department level. .	Will be measured on regular basis	Establishing an insect pest advisory service at the department	For insect pest identification identified specimen are preserved for technical support Techniques regarding research and field practices developed and dissemination to the students and the growers also
2	To make aware and educate them about most recent and effective techniques of IPM (Integrated Pest Management) in various crop system.	Assessing the previous understanding of students through exams,/tests and through interaction with student	In the already established system of regular and periodic exam system by the university	Incorporation of new techniques in entomology course work and accordingly some new subjects are required to be incorporated in the syllabus	Improvement of existing courses as per requisite Communication system is made better by developing the class lectures and using audio visual aids
3	To produce a cadre of students having potential to work effectively in a research, education, and extension setups to generate high level outputs.	Students' evaluation through research/internship project topics, and thesis/reports by the concerned individuals and committees.	Existing evaluation procedure, prior to initiate the activity like seminar and projects etc and at the completion of the activity or research thesis	Strong scrutiny system for topics and synopsis evaluation Students to deliver seminars and prepare reports etc	Seminars, presentation sessions and class discussions, were organized for communication proficiency improvement
4	To enable the students to become an efficient, job-oriented and dedicated professional to perform for the betterment of	Will be evaluated by concerned departmental or faculty level committees, and councils (academic council)	Periodic evaluation will be done in the meetings of the concerned bodies	Different titles/courses are suggested as per HEC/University guidelines/recommendations.	New development in related fields are incorporated for awareness and exposure regarding the field

	community and the country.				
5	To coach the students in order to make them delivering individuals in social and economic aspects of agriculture and the society in a harmonized way to produce a better index of cost and benefits of farming community and also in the context of sustainability of healthy and safe environment.	Through evaluation in different examinations at Departmental levels. This also includes the comprehensive and the final viva voce of the student for the award of the degree.	It would be a regular feature	Latest subjects should be incorporated in syllabus, to study the new challenges. Seminars and workshops on related issues may be organized and participated fully.	Endorsement of new syllabus to incorporate modern techniques and their formal and informal motivation and training to achieve the said objective.

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

Expected Outcomes of the Programme:

1. The graduating students (MSc Hons.) should have a thorough understanding of knowledge and issues related to insect pests, their biosystematics, their management and related problems of environment and have capacity to devise solutions.
2. The passing student must have a high level expertise in biocontrol pest management techniques and utilizing these techniques in an effective IPM system.
3. The student should have a good level understanding for situation analysis related to a pest and understanding to devise effective pest management methodology which is cost effective and environmental friendly.
4. The graduates (MSc Hons) have a high level of potential to conduct research experiments on the prevailing pest issues in the field of agriculture.
5. They must have a good level of advanced theoretical and practical knowledge of the subject helping them to prepare research projects for future needs.
6. They should be capable to devise and design field related enterprises and business using their expertise to add to the national economy.

7. They must have potential to contribute in sustainable development through their input in research and development activities in entomological activities.

Relationship between programme outcomes and objectives are given in table 2.

Table 2: Programme outcomes and their relationship with the Programme objectives

		Outcomes						
		1	2	3	4	5	6	7
Objectives	1	++	++	++	+++	++	++	+++
	2	+++	++	++	+++	+++	+++	++
	3	++	+++	+++	+++	++	++	++
	4	++	+++	++	+++	+++	++	++
	5	+++	+++	+++	+++	+++	++	+++

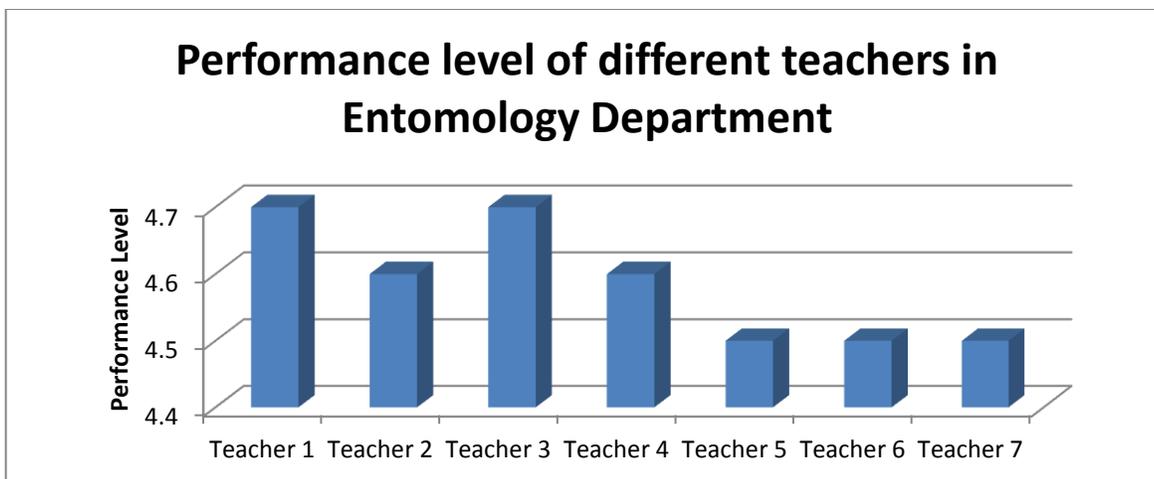
+ = Moderately satisfactory

++ = Satisfactory

+++ = Highly satisfactory

Programme Outcome Measurement

In order to complete this activity, information was gathered from the target groups through prescribed proforma provided by the Quality Enhancement Cell of Pir Mehr Ali Shah, Arid Agriculture University, Rawalpindi. The prescribed proformas were filled in by the respective class students, respective faculty members, department alumni, and the graduates (previously passed out from the university) working in different organizations, research institutes, and agriculture departments in different capacities/positions at national level. During the reporting period there were 7 teachers in the department which are numbered as 1-7. They are, Dr. Muhammad Naeem¹, Dr. Ata ul Mohsin², Dr. Humayun Javed³, Dr. Muir Ahmad⁴, Dr. Muhammad Tariq⁵, Dr. Asim Gulzar⁶, Dr. Imran Bodlah⁷. The results showed that the teacher # 1 & 3 were scoring 4.7, teacher 2 & 4 with 4.6, teacher 5-7 with 4.5.



PROGRAM ASSESSMENT RESULTS

Teachers' Evaluation (Performa 10)

Regarding the teachers' performance and their assessment, evaluation was done by the respective students and their comments were gathered on prescribed performa. This evaluation was done for different courses assigned to individual teachers through filling in Proforma 10.

Fall 2010-11

Teachers' Evaluation (Dr. Ata ul Mohsin) on ENT-708, Session Fall 2010-11:

64% students strongly agreed that teacher was prepared for each class and remaining 21%, and 15% simply agreed and uncertain respectively. 79% students strongly agreed that the instructor communicate the subject matter effectively and other 14% simply agreed while 7% uncertain. 57% students strongly agreed, 29% simply agreed and 14% uncertain about the completion of each component of course by the instructor. About the relevance of course with respect to Pakistani perspectives 50% students are strongly agreed, 43% simply agreed while 7% students uncertain. 86% students strongly agreed that instructor encourage the student's class participation by inviting questions while 7% simply agreed whereas 7% uncertain. 79% students are strongly agreed that class begun and end on time during entire semester, 14% simply agreed and other 7%% uncertain. 64% strongly agreed, 7% simply agreed, 14% uncertain and 14% disagree that teacher was fair in examination without any gender discrimination or background biasness. 71% students strongly agreed that assignments were graded and returned in a reasonable time and remaining 21% and 8% simply agreed and uncertain respectively. 50% strongly agreed, 36% agreed and 14% uncertain about the welcoming attitude and availability of teacher after class timings. 57% students were strongly agreed that assignments and examination material was related to course whereas 36% simply agreed and 7%

uncertain. 43% students strongly agreed, 36% simply agreed, 14% uncertain and 7% disagreed that the course was well up to date. About the course, 86% strongly agreed that the course was conducive and helped them in their knowledge enhancement while 14% simply agreed about this aspect. 71% students strongly agreed, 14% simply agreed, 7% uncertain while 7% disagree that the instructor displayed polite gesture and followed moral and ethical norms. 64% strongly agreed that class discussion stimulated intellectual curiosity, 29% simply agreed and other 7% uncertain. 86% students strongly agreed, 7% simply agreed and 7% uncertain about department encouragement on student feedback and respect.

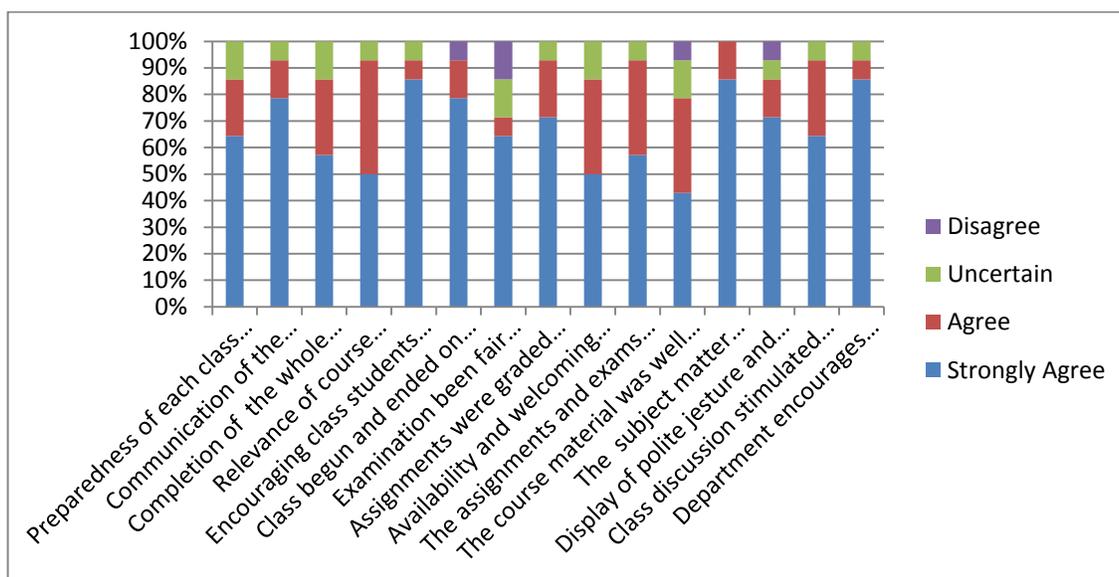


Fig. Graph showing Teacher Evaluation on ENT-708 during Fall-2010-11

Students Course Evaluation (Performa 1)

Courses taught the teachers at department level were also evaluated by the concerned students. The course of the teacher was evaluated on the basis of information gathered from Proforma 1. The performance level for the course is depicted in figure as shown below. Evaluation of courses alongwith their scores as done by the students are given as under.

Students Course Evaluation (Dr. Ata ul Mohsin) on ENT-708, Session Fall 2010-11:

79% students were strongly agreed and 21% agreed that course objective was clear. 64% students were strongly agreed, 29% agreed and 7% uncertain that the Course workload was manageable. 57% students were strongly agreed that the Course was well organized while remaining 43% were simply

agreed. 79% students were strongly agreed, 7% students agreed and 14% student disagreed that approximate level of their own attendance during the whole Course. 71% students were strongly agreed, 14% agreed, 8% uncertain and 7% disagree that they actively participate in the class. 64% students were strongly agreed, 14% agreed, 14% uncertain and 8% disagree and that they have made progress in this course. 57% students were strongly agreed, 23% agreed and 14% uncertain that the Course was well structured to achieve the learning outcomes. 57% students were strongly agreed, 36% agreed and 7% uncertain that the learning and teaching methods encouraged participation. 64% students were strongly agreed, 14% agreed and 22% uncertain that the overall environment in the class was conducive to learning. 71% students were strongly agreed and 29% agreed that Classrooms were satisfactory. 64% students were strongly agreed and 36% agreed that Learning materials were relevant and useful. 50% students were strongly agreed, 43% agreed and 7% uncertain that recommended reading books etc. were relevant and appropriate. 71% students were strongly agreed, 14% agreed, 7% uncertain and 7% disagree that the provision of learning resources in the library was adequate and appropriate. 64% students were strongly agreed and 36% agreed that the provision of learning resources on the web was adequate and appropriate. 64% students were strongly agreed, 21% agreed, 7% uncertain and 7% disagreed that the course stimulated by interest and thought on the subject area. 64% students were strongly agreed and 36% agreed that the pace of the course was appropriate. 64% students were strongly agreed, 29% agreed and 7% uncertain that Ideas and concepts were presented clearly. 50% students were strongly agreed, 43% agreed and 7% uncertain that the method of assessment were reasonable.

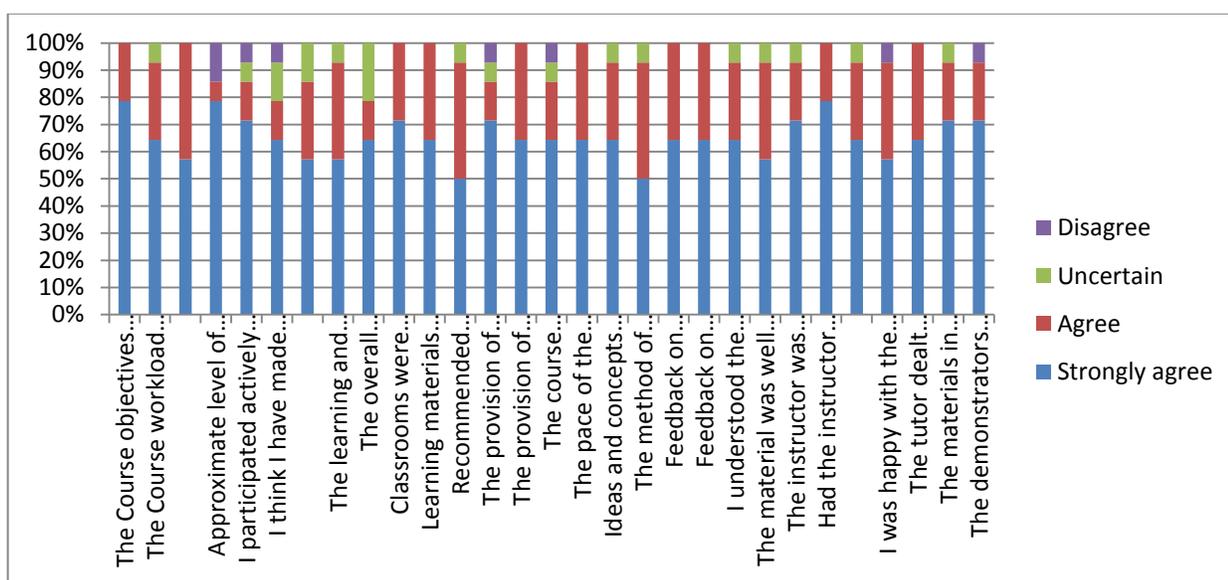


Fig. Graph showing student course evaluation on ENT-708 during Fall-2010-11

64% students were strongly agreed and 36% agreed that Feedback on assessment was timely. 64% students were strongly agreed and 36% agreed that Feedback on assessment was helpful. 64% students were strongly agreed, 29% agreed and 9% uncertain that they understood the lectures. 57% students were strongly agreed, 36% agreed and 7% uncertain that the material was well organized and presented. 71% students were strongly agreed, 21% agree and 8% uncertain that the instructor was responsive to student needs and problems. 79% students were strongly agreed and 21% agreed that the material in the tutorials was useful. 64% students were strongly agreed, 29% agreed and 7% uncertain that they were happy with the amount of work needed for tutorials. 57% students were strongly agreed, 36% agreed and 7% uncertain that the tutor dealt effectively with my problems. 64% students were strongly agreed and 36% agreed that the material in practical was useful. 71% students were strongly agreed, 21% agreed and 8% uncertain that the demonstrators dealt effectively with my problems

Spring 2011

Teachers' Evaluation (Performa 10)

Teachers' Evaluation (Prof. Dr. M. Naeem) on ENT-703 during spring 2011

53.33% students were strongly agreed and 33.33% students were agreed that the instructor is prepared for each class respectively. 66.67 % students were strongly agreed, and 26.67% were agreed that the instructor demonstrates knowledge of the subject. 60% students were strongly agreed, 26.67% were agreed that The instructor was completed the whole course. 60% students were strongly agreed, 33.33% were agreed and 6.67% were uncertain that the instructor provides additional material apart from the textbook. 53.33% students were strongly agreed, 33.33% were agreed and 13.3% were uncertain that the instructor gives citations regarding current situations with reference to Pakistani context. 60% students were strongly agreed and 40% students were agreed that the instructor communicates the subject matter effectively. 66.67% students were strongly agreed and 33.33% students were agreed that the instructor shows respect towards students and encourage class participation.

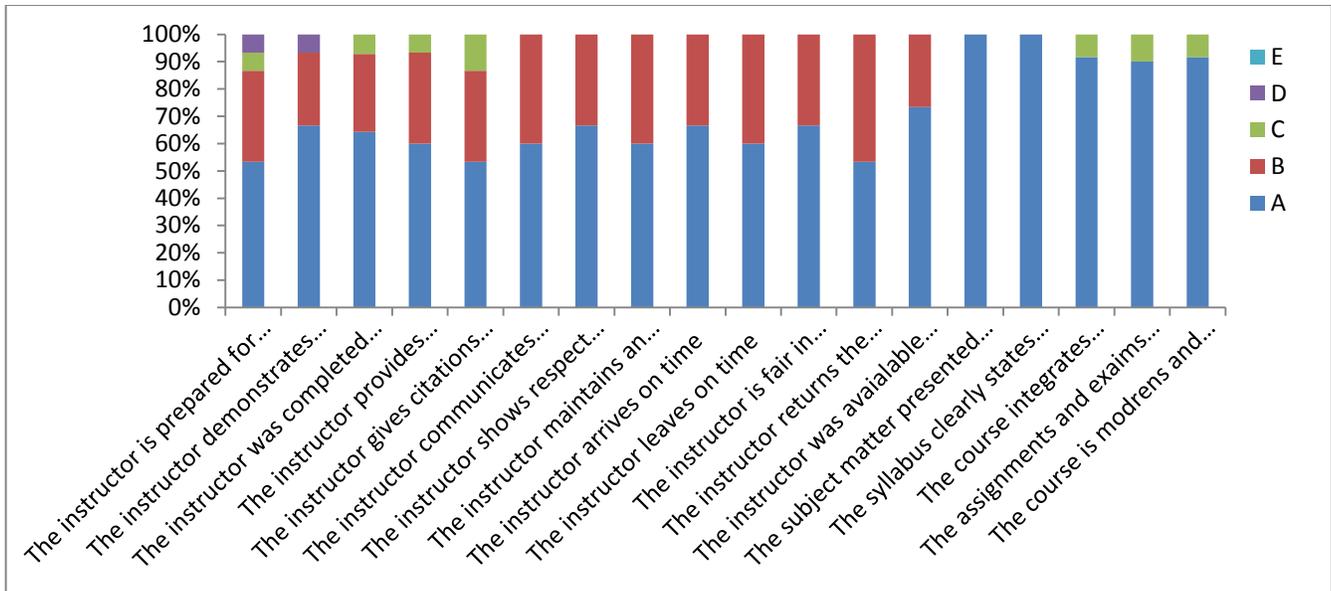


Fig: Graph showing Teacher evaluation on ENT-703 during spring 2011

60% students were strongly agreed and 40% students were agreed that the instructor maintains an environment that is conducive to learning. 66.67% students were strongly agreed and 33.33% students were agreed that the instructor arrives on time. 60% students were strongly agreed and 40% students were agreed that the instructor leaves on time. 67% students were strongly agreed and 33.33% students were agreed that the instructor is fair in examination. 53.33% students were strongly agreed and 46.67% students were agreed that the instructor returns the graded scripts etc. in a reasonable amount of time. 73.33% students were strongly agreed and 26.67% students were agreed that the instructor was available during specified office hours and after class consultations. 66.67% students were strongly agreed the subject matter presented in the course has increased your knowledge of this subject. 60% students were strongly agreed the syllabus clearly states course objectives requirements procedure and grading criteria. 73.3% students were strongly agreed and 6.67% were uncertain that the course integrates theoretical course with real-world applicants. 60% students were strongly agreed and 6.67% were uncertain that the assignments and exams covered the materials presented in the course. 73.33% students were strongly agreed and 6.67% were uncertain that the course is moderns and updated.

Teachers' Evaluation (Dr. Munir Ahmed) on ENT-714 during spring 2011

89.47% students were strongly agreed and 10.53% students were agreed that the instructor is prepared for each class respectively. 100% students were strongly agreed that the instructor demonstrates knowledge of the subject. 84.21% students were strongly agreed, 10.53% were agreed that the

instructor was completed the whole course. 73.68% students were strongly agreed, 26.32% were agreed that the instructor provides additional material apart from the textbook. 73.68% students were strongly agreed, 26.32% were agreed that the instructor gives citations regarding current situations with reference to Pakistani context. 84.21% students were strongly agreed and 5.26 students were agreed that the instructor communicates the subject matter effectively. 84.21% students were strongly agreed and 15.79% students were agreed that the instructor shows respect towards students and encourage class participation. 89.47% students were strongly agreed and 10.53% students were agreed that the instructor maintains an environment that is conducive to learning. 100% students were strongly agreed that the instructor arrives on time. 89.47% students were strongly agreed and 10.53% students were agreed that the instructor leaves on time. .100% students were strongly agreed that the instructor is fair in examination. 89.47% students were strongly agreed and 10.53% students were agreed that the instructor returns the graded scripts etc. in a reasonable amount of time. 68.42% students were strongly agreed and 31.58% students were agreed that the instructor was available during specified office hours and after class consultations. 73.68% students were strongly agreed and 26.32% were agreed the subject matter presented in the course has increased your knowledge of this subject. 84.21% students were strongly agreed and 15.79% were agreed the syllabus clearly states course objectives requirements procedure and grading criteria. 68.42 % students were strongly agreed and 31.58% were agreed that the course integrates theoretical course with real-world applicants. 68% students were strongly agreed and 31.58% were agreed that the assignments and exams covered the materials presented in the course. 89.47 % students were strongly agreed and 10.53% were agreed that the course is moderns and updated.

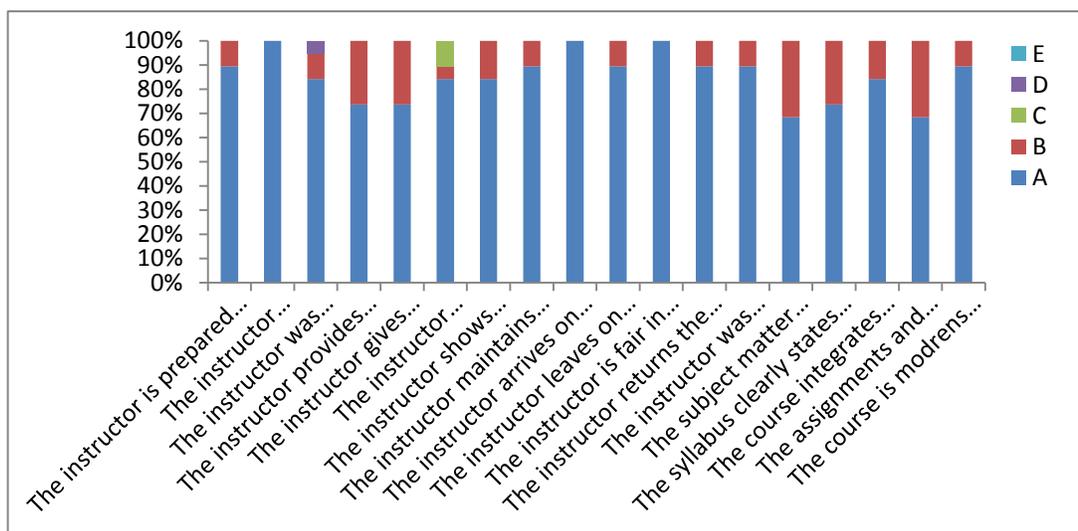


Fig. Graph showing teacher evaluation on ENT 714 during spring 2011

Student Course Evaluation (Performa 1)

Student Course Evaluation (Prof. Dr. M. Naeem) on ENT-703 during spring 2011

73.33% students strongly agreed whereas 20% simply agreed that the Course objectives were clear. 60% students strongly agreed whereas 6.67% simply agreed that the Course workload was manageable. 60% students strongly agreed, 13.33% agreed that the Course was well organized. 60% student strongly agreed, 33.33% agreed the approximate level of student own attendance during the whole Course. 40% are strongly agreeing, 33.33% agreed that student participated actively in the Course. 40% strongly agreed and 40% agreed that I think student have made progress in this Course. 73.33% students strongly agreed, 13.33% agreed and 13.33% were uncertain think that the Course was well structured to achieve the learning outcomes. 60% were strongly agreed, 13.33 were agreed and 20% uncertain that the learning and teaching methods encouraged participation. 60% strongly agree, 6.67% agreed and 20% uncertain that the overall environment in the class was conducive to learning. 53.33 % were strongly agreed, 20% agreed and 20% uncertain that the classrooms were satisfactory. 60% were strongly agreed, 6.67% agreed and 20% uncertain that learning materials were relevant and useful. 53.33% students strongly agree, 20% agreed and 6.67% uncertain that recommended reading books etc. were relevant and appropriate. 46.67% were strongly agreed, 26.67% agreed and 20%% uncertainthat the provision of learning resources in the library was adequate and appropriate. 46.67% students strongly agreed 20% were agreed and 26.67% uncertain that the provision of learning resources on the web was adequate and appropriate. 66.67% students strongly agreed whereas 13.33% were agreed and 13.33 were uncertain that the course stimulated by interest and thought on the subject area. 53.33% are strongly agreed, 33.33% agreed and 6.67% uncertain that the pace of the course was appropriate. 53.33% strongly agreed, 33.33% agreed and 13.33% uncertain that the ideas and concepts were presented clearly. 53.33% strongly agreed, 26.67% simply agreed and 13.33% uncertain that the method of assessment was reasonable. 53.33% were strongly agreed, 20% agreed and 20% uncertain that Feedback on assessment was timely. 53.33% students strongly agreed, 13.33% simply agreed and 26.67% uncertain that feedback on assessment was helpful. 46.67% students strongly agreed whereas 26.67% were agreed and 20% uncertain that student understood the lectures. 46.67% are strongly agreed, 26.67% agreed and 20% uncertain that the material was well organized and presented. 46.67%

strongly agreed, 20% agreed and 26.67% uncertain that the instructor was responsive to student needs and problems. 46.67% strongly agreed, 20% simply agreed and 26.67% uncertain that had the instructor been regular throughout the course. 53.33% students strongly agreed, 33.33% simply agreed and 6.67% uncertain that the material in the tutorials was useful. 60% were strongly agreed, 26.67% agreed and 6.67% uncertain that student was happy with the amount of work needed for tutorials. 66.67% strongly agreed, 20% agreed and 6.67% uncertain that the tutor dealt effectively with my problems. 53.33%strongly agreed, 33.33% agreed and 6.67% uncertain that the material in the practical was useful. 60% strongly agreed and 33.33% simply agreed that the demonstrators dealt effectively with my problems.

Student Course Evaluation (Dr. Munir Ahmed) on ENT-714 during spring 2011

94.74% students strongly agreed whereas 5.26% were agreed that the Course objectives were clear. 78.95% students strongly agreed whereas 21.05% simply agreed that the Course workload was manageable. 94.74% students strongly agreed, 5.26% agreed that the Course was well organized. 52.63% are strongly agreeing, 31.58% agree and 10.53% were uncertain that student participated actively in the Course. 63.16% strongly agreed, 31.58% agreed that I think student have made progress in this Course. 78.95% students strongly agreed, 21.05% agreed I think the Course was well structured to achieve the learning outcomes. 84.21% were strongly agreed and 15.79 were agreed that the learning and teaching methods encouraged participation.

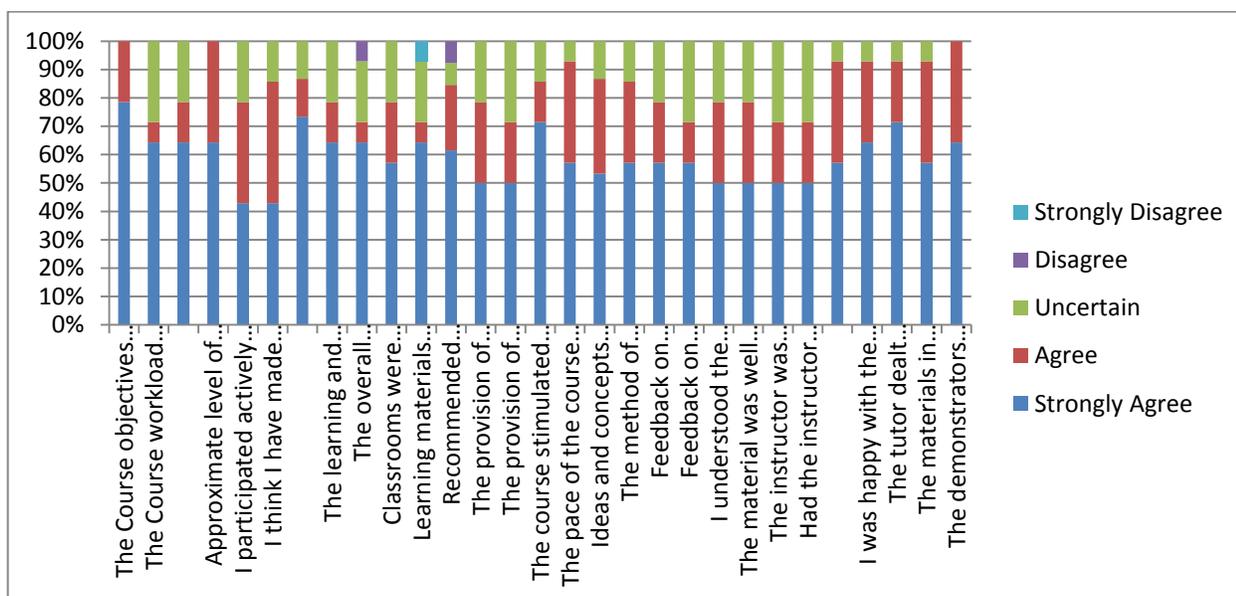


Fig: Graph showing student course evaluation on ENT-703 during spring 2011

84.21% strongly agree and 15.79% agreed the overall environment in the class was conducive to learning. 73.68 % were strongly agreed, 15.79% agreed and 5.26% were uncertain that the classrooms were satisfactory. 73.68% were strongly agreed, 26.32% agreed that learning materials were relevant and useful. 73.68% students strongly agree, 26.32% agreed that recommended reading books etc. were relevant and appropriate. 68.42% were strongly agreed, 26.32% agreed and 5.26% were uncertain the provision of learning resources in the library was adequate and appropriate. 68.42% students strongly agreed and 31.58% simply agreed that the provision of learning resources on the web was adequate and appropriate. 57.89% students strongly agreed whereas 42.11% were agreed that the provision of learning resources on the web was adequate and appropriate. 57.89% are strongly agreed and 42.11% agreed the pace of the course was appropriate. 63.16% strongly agreed and 36.84% agreed that the ideas and concepts were presented clearly. 68.42% strongly agreed and 31.58% simply agreed that the method of assessment were reasonable. 73.68% were strongly agreed, 26.32% were agreed that Feedback on assessment was timely. 68.42% students strongly agreed and 31.58% simply agreed feedback on assessment was helpful. 78.95% students strongly agreed whereas 21.05% were agreed that student understood the lectures. 89.47% are strongly agreed and 10.53% agreed the material was well organized and presented. 84.21% strongly agreed and 15.79% agreed that the instructor was responsive to student needs and problems. 84.21% strongly agreed and 15.79% simply agreed that had the instructor been regular throughout the course? 68.42% students strongly agreed whereas 31.58 % were agreed that the material in the tutorials was useful. 63.16% are strongly agreed and 36.84% agreed that student was happy with the amount of work needed for tutorials. 84.21% strongly agreed and 15.79% agreed that the tutor dealt effectively with my problems. 84.21% strongly agreed and 15.79% simply agreed that the materials in practical were useful. 78.95% strongly agreed and 21.05% simply agreed that the demonstrators dealt effectively with my problems.

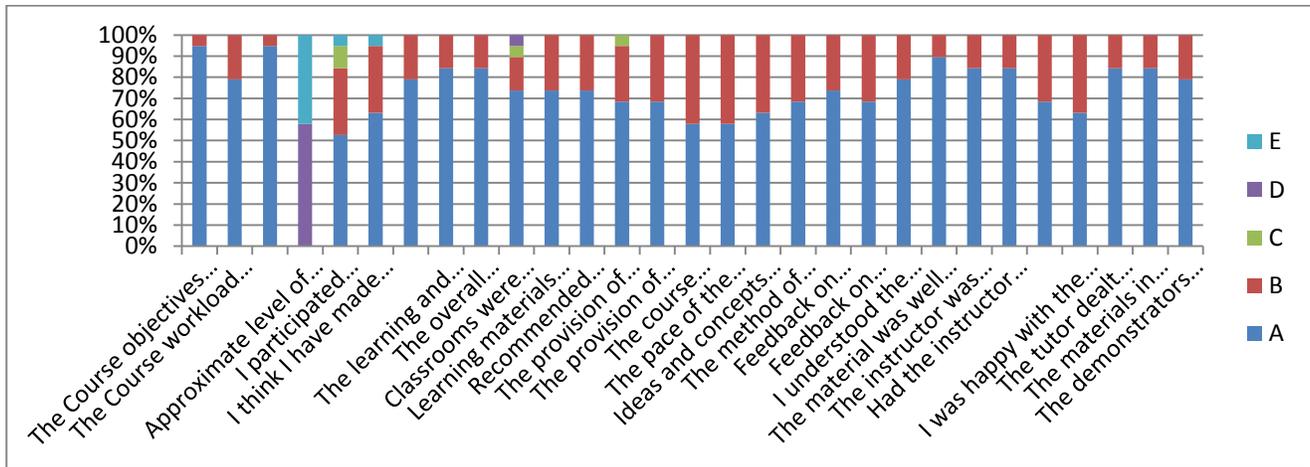


Fig. Graph showing student course evaluation on ENT 714 during spring 2011

Fall-2011-12

Teachers' Evaluation (Performa 10)

Teachers' Evaluation (Prof. Dr. M. Naeem) on ENT-701 during Fall-2011-12

46.67% students strongly agree and 40% agree that the instructor is prepared for each class. 53.33% students strongly agreed whereas 46.67% simply agreed that he demonstrates knowledge on the subject. 46.67% students strongly agreed, 40% agreed, that their course was completely covered by the instructor. 33.33% student strongly agreed, 46.67% agreed & 13.33% were uncertain that he provides additional material apart from the textbook. 20% are strongly agreeing, 66.67% agree and 13.33% were uncertain that he gave citations regarding current situations in reference to Pakistan. 33.33% strongly agree, 46.67% agreed, and 13.33% were uncertain that the instructor communicates the subject matter every effectively. 46.67% were strongly agreed, 46.67% agree and 6.67% were disagreeing that the instructor has shown respect shown towards the students and encouraging class participation. 26.67% students strongly agreed, 66.67% agreed, that the instructor maintains the environment that is conducive to learning. 40% were strongly agreed and 46.67% agreed that the instructor is very punctual. 33.33% strongly agree and 60% agree that he leaves the class in time. 33.33% were strongly agreed, 53.33% agreed that the instructor is fair in examination. 26.67% were strongly agreed, 66.67% agreed and 6.67% were uncertain that he returns the graded script in a reasonable amount of time. 33.33% students strongly agree, 60% agreed that the instructor was

available during the specified office hours and for after class consultation. 46.67% were strongly agreed, 40% agreed that the subject matter presented in the course has increased their knowledge on the subject. 33.33% students strongly agreed and 60% simply agreed and 6.67% were uncertain that the syllabus clearly states course objectives requirements, procedures and grading criterion. 53.33% students strongly agreed whereas 33.33% are agreed that the course integrates theoretical course concepts with real world applications. 40% are strongly agreed and 53.33% agreed, and 6.67% disagreed that her assignments and exams covered the material presented in the course. 46.67% strongly agreed and 40% agreed and 13.33% strongly disagreed that the course material is modern and updated.

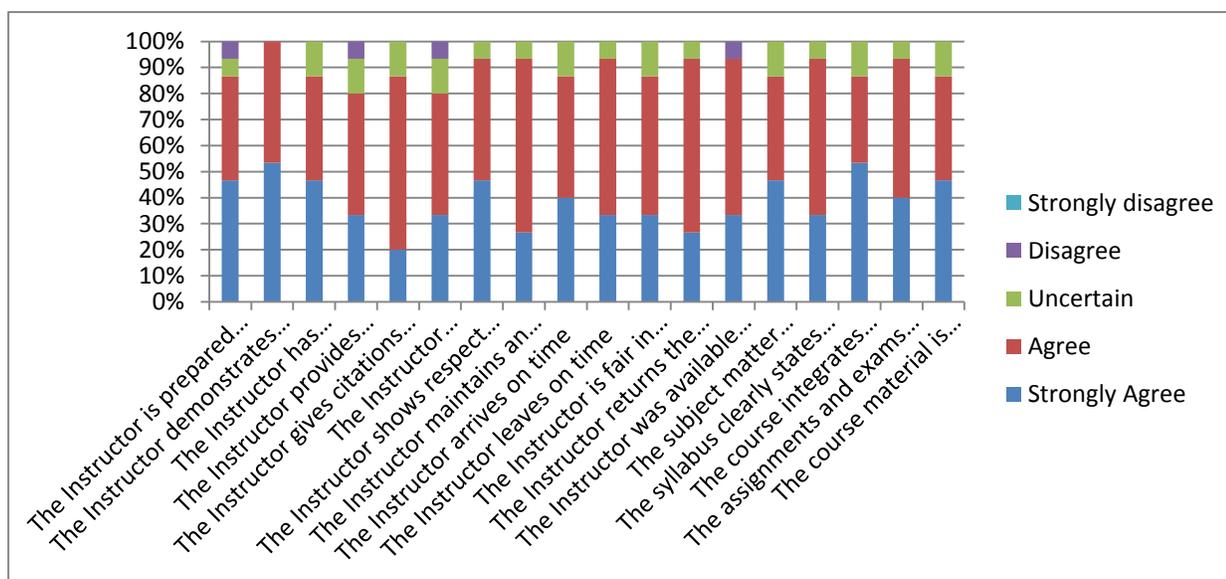


Fig: Graph showing Teacher evaluation on ENT-701 during Fall 2011-12

Teachers’ Evaluation (Dr. Humayun Javed) on ENT-711 during Fall-2011-12

85% students strongly agree that the instructor is prepared for each class. 70% students strongly agreed whereas 25% simply agreed that he demonstrates knowledge on the subject. 60% students strongly agreed, 35% agreed, that their course was completely covered by the instructor. 75% student strongly agreed, 20% agreed & 5% were uncertain that he provides additional material apart from the text. 50% are strongly agreeing, 35% agree and 10% were uncertain that he gave citations regarding current situations in reference to Pakistan. 60% strongly agree, 35% agreed, and 5% were uncertain that the instructor communicates the subject matter every effectively. 75% were strongly agreed, 25% agree and 0% were disagreeing that the instructor has shown respect shown towards the students and

encouraging class participation. 45% students strongly agreed, 45% agreed, that the instructor maintains the environment that is conducive to learning. 75% were strongly agreed and 25% agreed that the instructor is very punctual. 85% strongly agree and 5% agree that he leaves the class in time. 60 % were strongly agreed, 25% agreed that the instructor is fair in examination. 55% were strongly agreed, 40% agreed and 5% were uncertain that he returns the graded script in a reasonable amount of time. 65% students strongly agree, 35% agreed that the instructor was available during the specified office hours and for after class consultation. 50% were strongly agreed, 45% agreed that the subject matter presented in the course has increased their knowledge on the subject. 50% students strongly agreed and 50% simply agreed that the syllabus clearly states course objectives requirements, procedures and grading criterion. 50% students strongly agreed whereas 50% are agreed that the course integrates theoretical course concepts with real world applications. 80% are strongly agreed and 20% agreed that her assignments and exams covered the material presented in the course. 75% strongly agreed and 20% agreed that the course material is modern and updated.

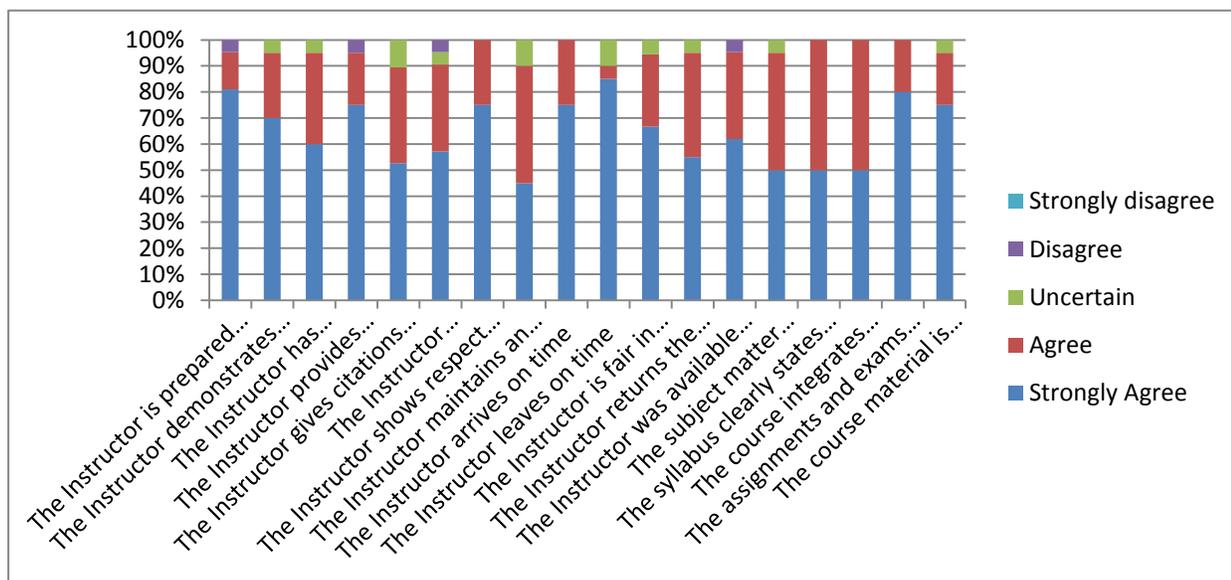


Fig: Graph showing Teacher evaluation on ENT-711 during Fall 2011-12

Teacher’s evaluation (Dr. Ata ul Mohsin) on ENT-717 during Fall 2011-12

76% students strongly agree that the instructor is prepared for each class. 68% students strongly agreed whereas 32% simply agreed that he demonstrates knowledge on the subject. 76% students strongly

agreed, 24% agreed, that their course was completely covered by the instructor. 72% student strongly agreed, 28% agreed that he provides additional material apart from the text. 68% are strongly agreeing, 32% agree that he gave citations regarding current situations in reference to Pakistan. 72% strongly agree, 28% agreed that the instructor communicates the subject matter very effectively. 72% were strongly agreed, 28% agree that the instructor has shown respect shown towards the students and encouraging class participation. 72% students strongly agreed, 28% agreed, that the instructor maintains the environment that is conducive to learning. 68% were strongly agreed and 32% agreed that the instructor is very punctual. 72% strongly agree and 28% agree that he leaves the class in time. 64% were strongly agreed, 36% agreed that the instructor is fair in examination. 64% were strongly agreed, 36% agreed that he returns the graded script in a reasonable amount of time. 68% students strongly agree, 32% agreed that the instructor was available during the specified office hours and for after class consultation. 64% were strongly agreed, 36% agreed that the subject matter presented in the course has increased their knowledge on the subject. 64% students strongly agreed and 36% simply agreed that the syllabus clearly states course objectives requirements, procedures and grading criterion. 60% students strongly agreed whereas 40% are agreed that the course integrates theoretical course concepts with real world applications. 60% are strongly agreed and 32% agreed that assignments and exams covered the material presented in the course. 60% strongly agreed and 40% agreed and that the course material is modern and updated.

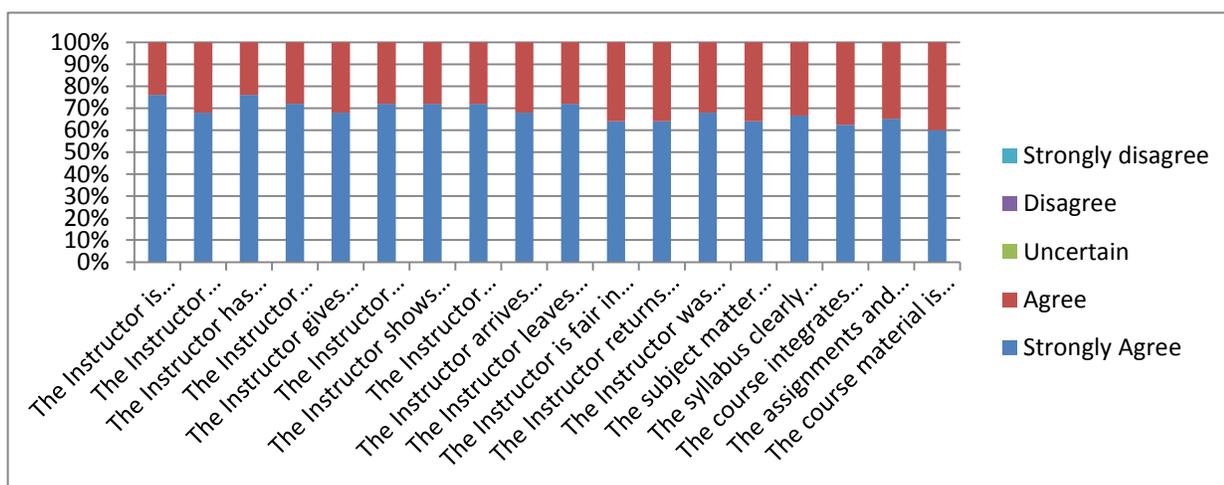


Fig: Graph showing Teacher’s evaluation on ENT-717 during Fall 2011-12
Teacher’s evaluation (Dr. Munir Ahmed) on ENT-721 during Fall 2011-12

77.27% students strongly agree and 22.73% agree that the instructor is prepared for each class. 68.18% students strongly agreed whereas 31.82% simply agreed that he demonstrates knowledge on the subject. 72.73% students strongly agreed, 27.27% agreed, that their course was completely covered by the instructor. 63.64% student strongly agreed, 31.82% agreed & 4.55% were uncertain that he provides additional material apart from the textbook. 59.09% are strongly agreeing, 40.91% agree that he gave citations regarding current situations in reference to Pakistan. 63.64% strongly agree, 36.36% agreed that the instructor communicates the subject matter every effectively. 68.18% were strongly agreed, 31.82% agree that the instructor has shown respect shown towards the students and encouraging class participation. 72.73% students strongly agreed, 22.73% agreed, that the instructor maintains the environment that is conducive to learning. 81.82% were strongly agreed and 18.18% agreed that the instructor is very punctual. 63.64% strongly agree and 36.36% agree that he leaves the class in time. 77.27% were strongly agreed, 18.18% agreed that the instructor is fair in examination. 72.73% were strongly agreed, 22.73% agreed that he returns the graded script in a reasonable amount of time. 63.64% students strongly agree, 31.82% agreed that the instructor was available during the specified office hours and for after class consultation. 72.73% were strongly agreed, 31.82% agreed that the subject matter presented in the course has increased their knowledge on the subject. 68.18% students strongly agreed and 27.27% simply agreed that the syllabus clearly states course objectives requirements, procedures and grading criterion. 68.18% students strongly agreed whereas 27.27% are agreed that the course integrates theoretical course concepts with real world applications. 72.73% are strongly agreed and 22.73% agreed that her assignments and exams covered the material presented in the course. 59.09% strongly agreed and 36.36% agreed that the course material is modern and updated.

Students Course Evaluation (Performa 1)

Students Course Evaluation (Prof. Dr. M. Naeem) on ENT-701 during Fall 2011-12

40% students strongly agreed whereas 53.33% simply agreed and 6.66% were uncertain that the Course workload was manageable. 40% students strongly agreed, 53.33% agreed that the Course was well organized. 80% student strongly agreed, 20% agreed the approximate level of student own attendance during the whole Course. 46.66% are strongly agreeing, 53.33% agree and that student participated actively in the Course. 46.66% strongly agreed, 53.33% agreed that they think student have made progress in this Course. 40% students strongly agreed, 60% agreed I think the Course was well structured to achieve the learning outcomes. 33.33% were strongly agreed and 60% agreed that

the learning and teaching methods encouraged participation. 40% strongly agree and 53.33% agreed the overall environment in the class was conducive to learning.

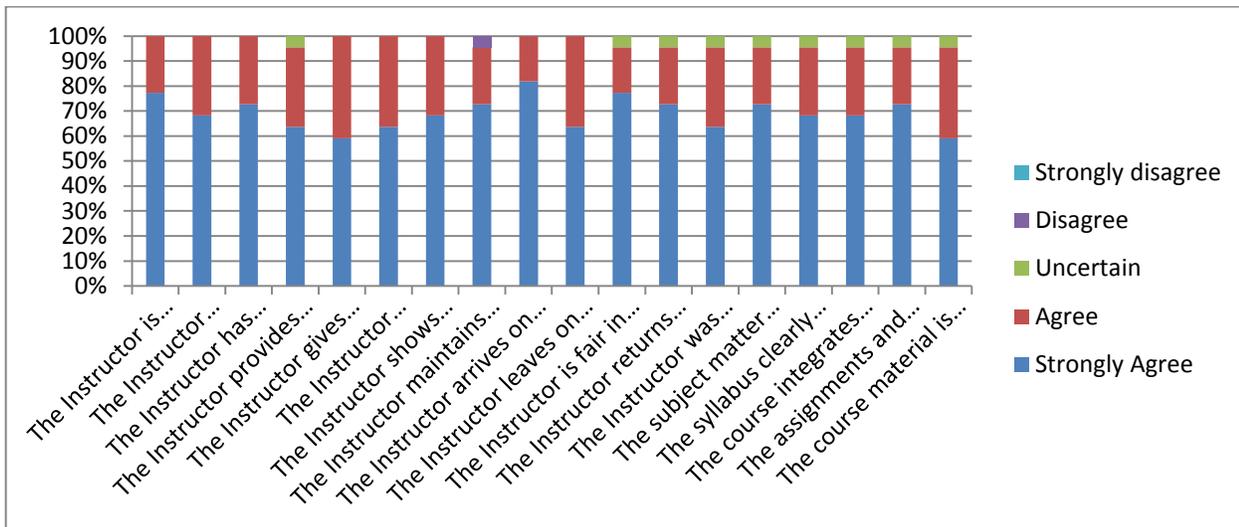


Fig: Graph showing Teacher evaluation on ENT-721 during Fall 2011-12

26.67 % were strongly agreed, 66.66% agreed and 6.66% were uncertain that the classrooms were satisfactory. 26.66% were strongly agreed, 60% agreed that learning materials were relevant and useful. 46.67% students strongly agree, 46.67% agreed that recommended reading books etc. were relevant and appropriate. 46.67% were strongly agreed, 40% agreed and 13.33% were uncertain the provision of learning resources in the library was adequate and appropriate. 40% students strongly agreed and 53.33% simply agreed and 6.66% were uncertain that the provision of learning resources on the web was adequate and appropriate. 13.33 % students strongly agreed whereas 80% were agreed that the course simulated by interest and thought on the subject area. 20% are strongly agreed and 66.66% agreed the pace of the course was appropriate. 40% strongly agreed and 46.66% agreed that the ideas and concepts were presented clearly. 46.66% strongly agreed and 53.33% simply agreed that the method of assessment were reasonable. 26.66% were strongly agreed, 66.66% agreed and 6.67% were uncertain that Feedback on assessment was timely. 33.33% students strongly agreed and 53.33% simply agreed and 13.33% were uncertain feedback on assessment was helpful. 20% students strongly agreed whereas 73% were agreed that student understood the lectures. 26.66% are strongly agreed and 13.33% agreed the material was well organized and presented. 33.33% strongly agreed and 53.33% agreed that the instructor was responsive to student needs and problems. 40% strongly agreed and 60% simply agreed that had the instructor been regular throughout the course. 20% students strongly agreed

whereas 73% were agreed and 6.33 % were uncertain that the material in the tutorials was useful. 26.66% are strongly agreed and 60% agreed and 13.33% were uncertain that student was happy with the amount of work needed for tutorials. 46.66% strongly agreed and 40% agreed and 13.33% were uncertain that the tutor dealt effectively with my problems. 26.66% strongly agreed and 53.33% simply agreed that the materials in practical were useful. 33.33% strongly agreed and 46.66% simply agreed that the demonstrators dealt effectively with my problems.

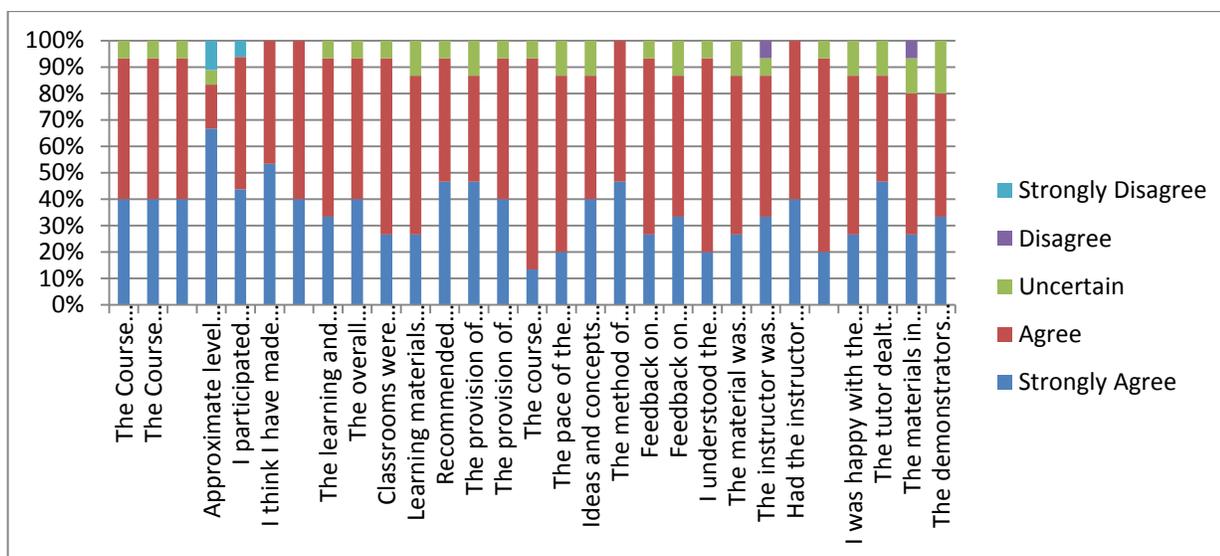


Fig: Graph showing student course evaluation on ENT-701 during Fall 2011-12

Students Course Evaluation (Dr. Humayun Javed) on ENT-711 during Fall 2011-12

30% students strongly agreed whereas 60% simply agreed and 10% were uncertain that the Course workload was manageable. 40% students strongly agreed 60% agreed that the Course was well organized. 55% student strongly agreed, 45% agreed the approximate level of student own attendance during the whole Course. 45% are strongly agreeing, 45% agree and that student participated actively in the Course. 50% strongly agreed, 40% agreed that they think student have made progress in this Course. 55% students strongly agreed, 45% agreed on I think the Course was well structured to achieve the learning outcomes. 60% were strongly agreed and 30% agreed that the learning and teaching methods encouraged participation. 55% strongly agree and 40% agreed the overall environment in the class was conducive to learning. 60% were strongly agreed that the classrooms were satisfactory. 60% were strongly agreed, 35% agreed that learning materials were relevant and useful. 50% students

strongly agree, 40% agreed that recommended reading books etc. were relevant and appropriate. 55% were strongly agreed, 40% agreed and 5% were uncertain the provision of learning resources in the library was adequate and appropriate. 60% students strongly agreed and 30% simply agreed and 10% were uncertain that the provision of learning resources on the web was adequate and appropriate. 80% students strongly agreed whereas 20% were agreed that the course simulated by interest and thought on the subject area. 50% are strongly agreed and 45% agreed the pace of the course was appropriate. 60% strongly agreed and 25% agreed that the ideas and concepts were presented clearly. 50% strongly agreed and 50% simply agreed that the method of assessment were reasonable. 35% were strongly agreed, 60% agreed and 5% were uncertain that Feedback on assessment was timely. 60% students strongly agreed and 35% simply agreed and 5% were uncertain feedback on assessment was helpful. 55% students strongly agreed whereas 45% were agreed that student understood the lectures. 75% are strongly agreed and 25% agreed the material was well organized and presented. 80% strongly agreed and 15% agreed that the instructor was responsive to student needs and problems. 75% strongly agreed and 25% simply agreed that had the instructor been regular throughout the course. 65% students strongly agreed whereas 35% were agreed that the material in the tutorials was useful. 45% are strongly agreed and 50% agreed and 5% were uncertain that student was happy with the amount of work needed for tutorials. 50% strongly agreed and 50% agreed that the tutor dealt effectively with my problems. 60% strongly agreed and 40% simply agreed that the materials in practical were useful. 55% strongly agreed and 40% simply agreed that the demonstrators dealt effectively with my problems.

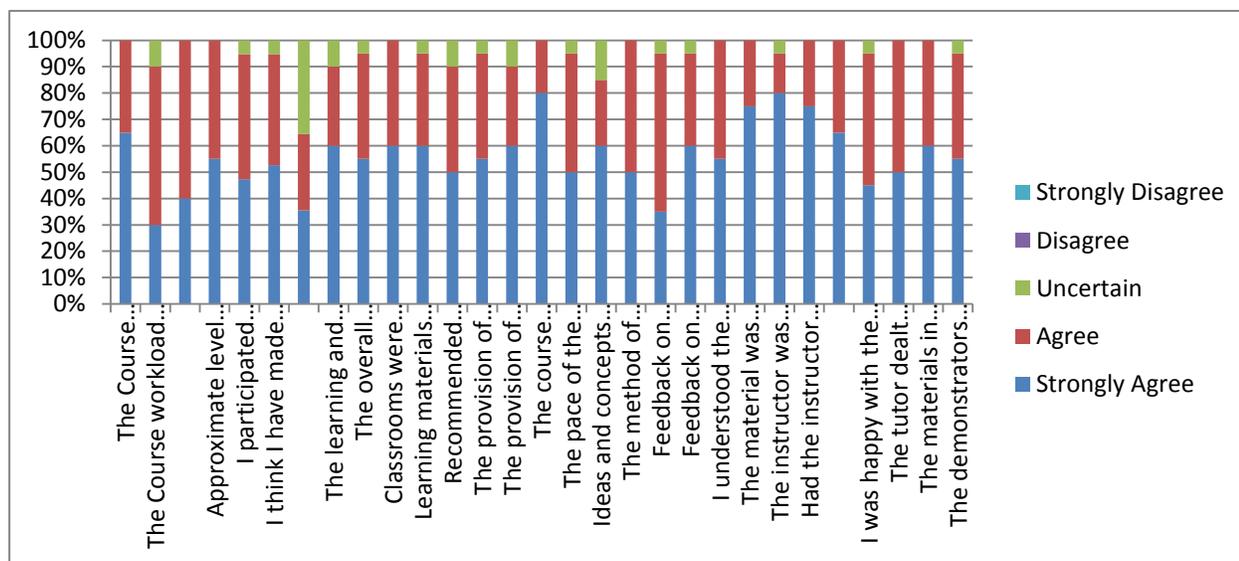


Fig: Graph showing student course evaluation on ENT-711 during Fall 2011-12

Student course evaluation (Dr. Ata ul Mohsin) on ENT-717 during Fall 2011-12

64% students strongly agreed whereas 32% simply agreed that the Course workload was manageable. 64% students strongly agreed & 36% agreed that the Course was well organized. 64% are strongly agreeing, 36% agree and that student participated actively in the Course. 60% strongly agreed, 36% agreed that they think student have made progress in this Course. 64% students strongly agreed, 32% agreed I think the Course was well structured to achieve the learning outcomes. 64% were strongly agreed and 32% agreed that the learning and teaching methods encouraged participation. 64% strongly agree and 32% agreed the overall environment in the class was conducive to learning. 64% were strongly agreed, 28% agreed that the classrooms were satisfactory. 60% were strongly agreed, 36% agreed that learning materials were relevant and useful. 60% students strongly agree, 40% agreed that recommended reading books etc. were relevant and appropriate. 60% were strongly agreed, 32% agreed the provision of learning resources in the library was adequate and appropriate. 64% students strongly agreed and 24% simply agreed that the provision of learning resources on the web was adequate and appropriate. 64% students strongly agreed whereas 32% were agreed that the course simulated by interest and thought on the subject area. 60% are strongly agreed and 36% agreed the pace of the course was appropriate. 64% strongly agreed and 36% agreed that the ideas and concepts were presented clearly. 60% strongly agreed and 40% simply agreed that the method of assessment were reasonable. 64% were strongly agreed, 32% agreed and 4% were uncertain that Feedback on assessment was timely. 64% students strongly agreed and 32% simply agreed and 4% were uncertain feedback on assessment was helpful. 64% students strongly agreed whereas 36% were agreed that student understood the lectures. 64% are strongly agreed and 36% agreed the material was well organized and presented. 68% strongly agreed and 28% agreed that the instructor was responsive to student needs and problems. 64% strongly agreed and 32% simply agreed that had the instructor been regular throughout the course. 64% students strongly agreed whereas 28% were agreed and 8% were uncertain that the material in the tutorials was useful. 56% are strongly agreed and 44% agreed that student was happy with the amount of work needed for tutorials. 64% strongly agreed and 36% agreed that the tutor dealt effectively with my problems. 64% strongly agreed and 36% simply agreed that the materials in practical were useful. 64% strongly agreed and 32% simply agreed that the demonstrators dealt effectively with my problems.

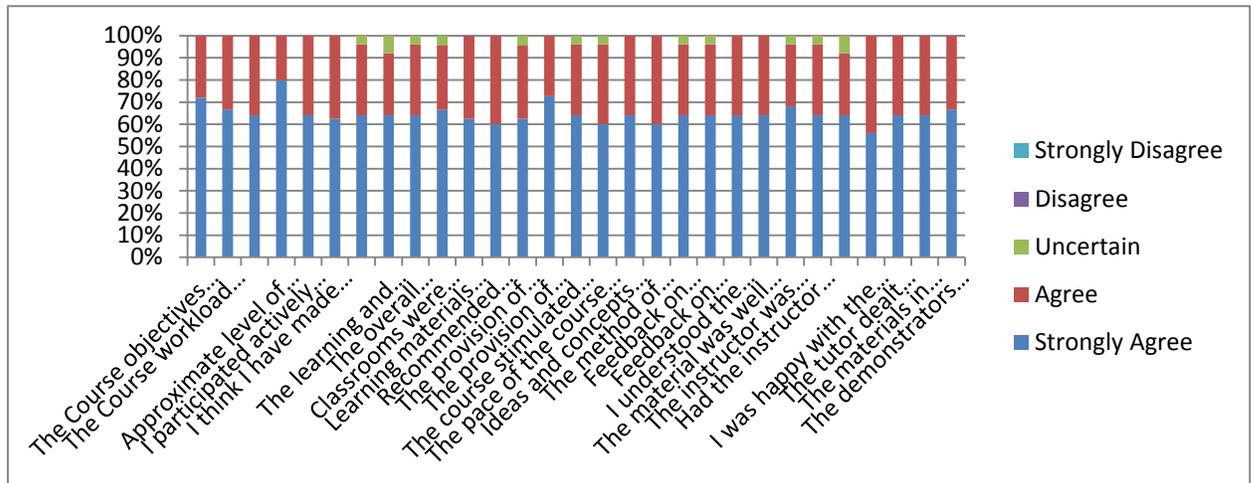


Fig: Graph showing student course evaluation on ENT-717 during Fall 2011-12

Student course evaluation (Dr. Munir Ahmed) on ENT-721 during Fall 2011-12

40.9% students strongly agreed whereas 54.4% simply agreed and that the Course workload was manageable. 54.54% students strongly agreed, 45.45% agreed that the Course was well organized. 36.36% are strongly agreeing, 63.33% agree and that student participated actively in the Course. 36.66% strongly agreed, 63.33% agreed that they think student have made progress in this Course. 50% students strongly agreed, 45% agreed I think the Course was well structured to achieve the learning outcomes. 45.45% were strongly agreed and 54.54% agreed that the learning and teaching methods encouraged participation. 45.45% strongly agree and 54.33% agreed the overall environment in the class was conducive to learning. 36.36% were strongly agreed, 54.54% agreed and 9.09% were uncertain that the classrooms were satisfactory. 50% were strongly agreed, 50% agreed that learning materials were relevant and useful. 54.54% students strongly agree, 40.9% agreed that recommended reading books etc. were relevant and appropriate. 36.36% were strongly agreed, 59.09% agreed the provision of learning resources in the library was adequate and appropriate. 40.09% students strongly agreed and 54.054% simply agreed and 4.45% were uncertain that the provision of learning resources on the web was adequate and appropriate. 36.36% students strongly agreed whereas 54.54% were agreed that the course simulated by interest and thought on the subject area. 45.54% are strongly agreed and 50% agreed the pace of the course was appropriate. 54.54% strongly agreed and 40.09% agreed that the ideas and concepts were presented clearly. 45.45% strongly agreed and 54.45% simply agreed that the method of assessment were reasonable. 50% were strongly agreed, 50% agreed that

Feedback on assessment was timely. 59.09% students strongly agreed and 40.09% simply agreed feedback on assessment was helpful. 45.45% students strongly agreed whereas 50% were agreed that student understood the lectures. 50% are strongly agreed and 50% agreed the material was well organized and presented. 59.09% strongly agreed and 40.09% agreed that the instructor was responsive to student needs and problems. 60.63% strongly agreed and 36.36% simply agreed that had the instructor been regular throughout the course. 9.09% students strongly agreed whereas 86.36% were agreed that the material in the tutorials was useful. 45.45% are strongly agreed and 40.09% agreed and 9.09% were uncertain that student was happy with the amount of work needed for tutorials. 54.54% strongly agreed and 36.36% agreed and 4.54% were uncertain that the tutor dealt effectively with my problems. 36.36% strongly agreed and 63.36% simply agreed that the materials in practical were useful. 45.45% strongly agreed and 50% simply agreed that the demonstrators dealt effectively with my problems.

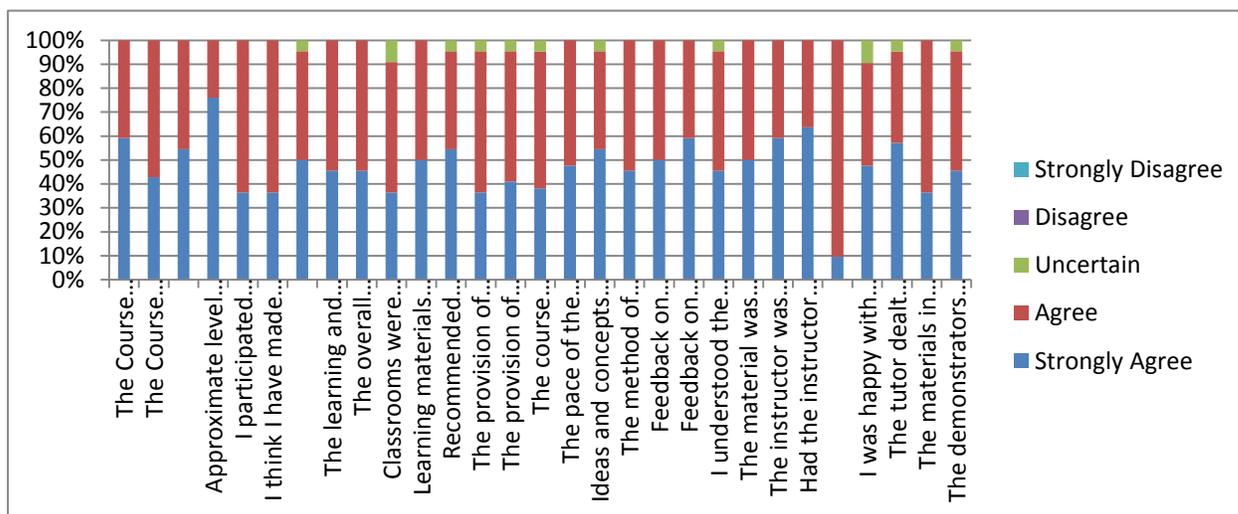


Fig: Graph showing student course evaluation on ENT-721 during Fall 2011-12

Spring 2012

Teachers' Evaluation (Performa 10)

Teachers' Evaluation (Dr. I mran Bodlah) on ENT-703 during Spring 2012

63% students strongly agree and 37% agree that the instructor is prepared for each class. 60% students strongly agreed and 40% agree that he demonstrates knowledge on the subject. 43% students strongly agreed, 50% agreed and 3% uncertain that their course was completely covered by the instructor. 40% student strongly agreed, 57% agreed and 3% uncertain that he provides additional material apart from the text. 57% are strongly agreeing and 43% agree that he gave citations regarding current situations in

reference to Pakistan. 60% strongly agree and 40% agreed that the instructor communicates the subject matter every effectively. 63% were strongly agreed and 37% agree that the instructor has shown respect shown towards the students and encouraging class participation. 43% students strongly agreed, 53% agreed and 3% uncertain that the instructor maintains the environment that is conducive to learning. 60% were strongly agreed, 33% agreed and 7% uncertain that the instructor is very punctual. 53% strongly agree and 47% agree that he leaves the class in time. 60% were strongly agreed and 40% agreed that the instructor is fair in examination. 57% were strongly agreed, 37% agreed and 7% uncertain that he returns the graded script in a reasonable amount of time. 47% students strongly agree, 47% agreed and 6% uncertain that the instructor was available during the specified office hours and for after class consultation. 37% were strongly agreed, 60% agreed and 3% uncertain that the subject matter presented in the course has increased their knowledge on the subject. 40% students strongly agreed, 47% simply agreed, 7% uncertain and 3% disagree that the syllabus clearly states course objectives requirements, procedures and grading criterion.

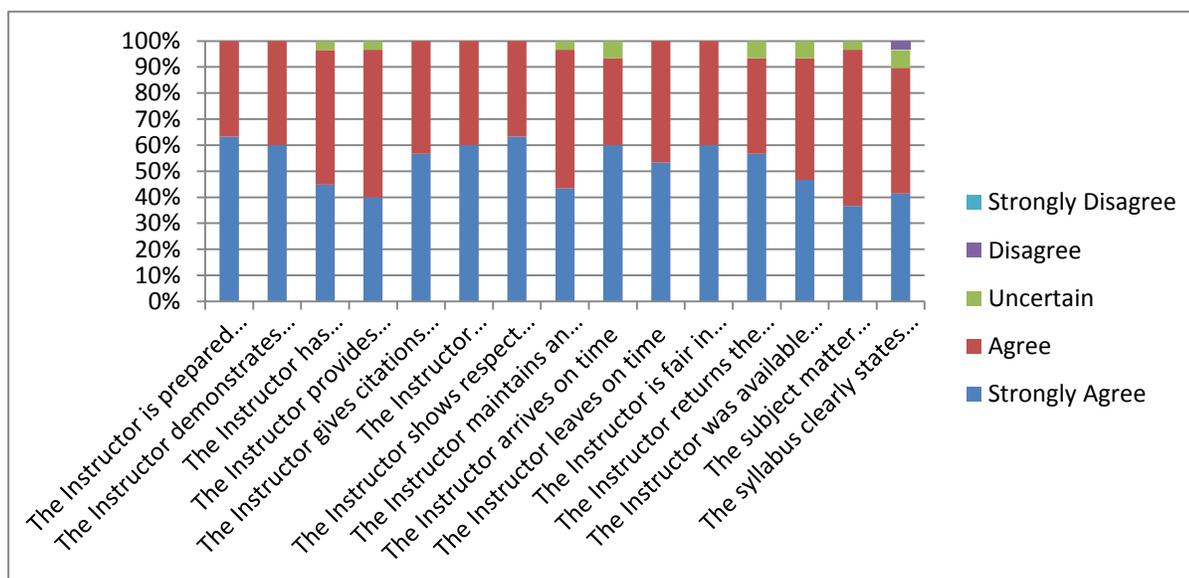


Fig: Graph showing teacher evaluation on ENT-703 during Spring 2012

Teachers’ Evaluation (Dr. M. Tariq) on ENT-708 during Spring 2012

67% students strongly agree and 25% agree and 8% are uncertain that the instructor is prepared for each class. 67% students strongly agreed 25% agreed whereas 8% uncertain that he demonstrates knowledge on the subject. 58% students strongly agreed, 33% agreed, that their course was completely covered by the instructor. 58% student strongly agreed, 33% agreed & 8% disagree that he provides additional material apart from the text. 67% are strongly agreeing, 33% agree that he gave citations

regarding current situations in reference to Pakistan. 58% strongly agree, 25% agreed, and 8% were uncertain that the instructor communicates the subject matter every effectively. 75% were strongly agreed, 17% agree that the instructor has shown respect shown towards the students and encouraging class participation. 58% students strongly agreed, 41% agreed, that the instructor maintains the environment that is conducive to learning. 67% were strongly agreed and 33% agreed that the instructor is very punctual. 58% strongly agree and 42% agree that he leaves the class in time. 75 % were strongly agreed, 17% agreed that the instructor is fair in examination. 67% were strongly agreed, 25% agreed that he returns the graded script in a reasonable amount of time. 58% students strongly agree, 33% agreed that the instructor was available during the specified office hours and for after class consultation. 67% were strongly agreed, 25% agreed and 8% were uncertain that the subject matter presented in the course has increased their knowledge on the subject. 67% students strongly agreed and 33% simply agreed that the syllabus clearly states course objectives requirements, procedures and grading criterion.

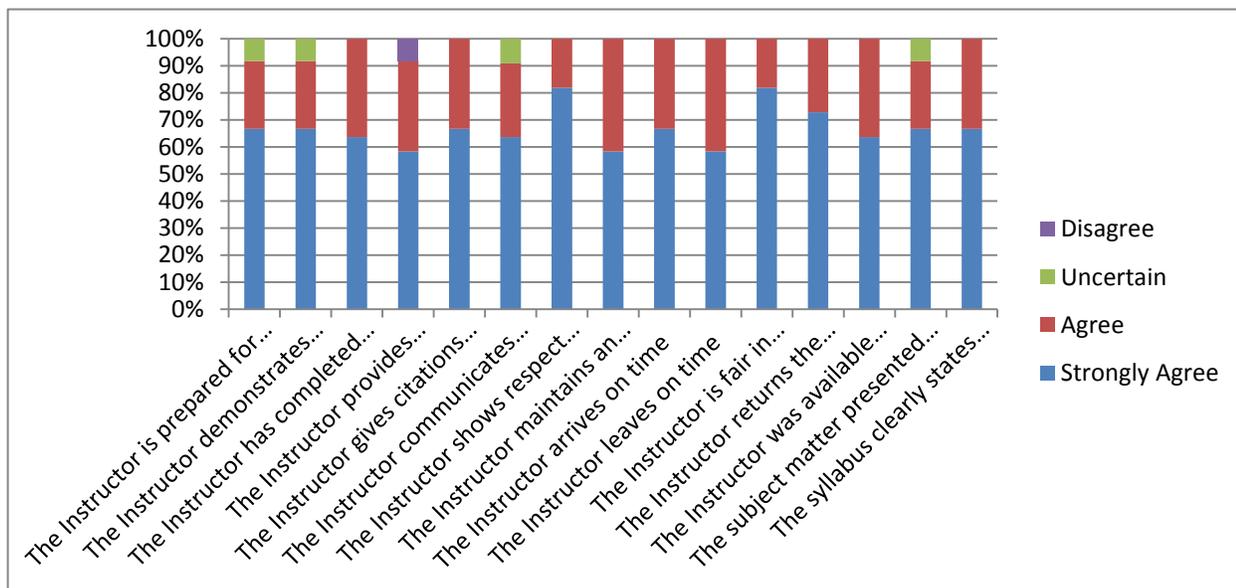


Fig: Graph showing teacher evaluation on ENT-708 during Spring 2012

Teachers’ Evaluation (Dr. Humayun Javed) on ENT-710 during Spring 2012

73% students strongly agree and 23% agree and 3% were uncertain that the instructor is prepared for each class. 53% students strongly agreed 43% agree and 1% were uncertain that he demonstrates

knowledge on the subject. 67% students strongly agreed, 30% agreed, that their course was completely covered by the instructor. 53% student strongly agreed, 43% agreed that he provides additional material apart from the text. 53% are strongly agreeing, 43% agree that he gave citations regarding current situations in reference to Pakistan. 53% strongly agree, 40% agreed, that the instructor communicates the subject matter every effectively. 50% were strongly agreed, 43% agree that the instructor has shown respect shown towards the students and encouraging class participation. 56% students strongly agreed, 40% agreed, that the instructor maintains the environment that is conducive to learning. 50% were strongly agreed and 46% agreed that the instructor is very punctual. 53% strongly agree and 40% agree that he leaves the class in time. 60% were strongly agreed, 37% agreed that the instructor is fair in examination. 63% were strongly agreed, 37% agreed that he returns the graded script in a reasonable amount of time. 43% students strongly agree, 47% agreed that the instructor was available during the specified office hours and for after class consultation. 56% were strongly agreed, 40% agreed that the subject matter presented in the course has increased their knowledge on the subject. 43% students strongly agreed and 50% simply agreed that the syllabus clearly states course objectives requirements, procedures and grading criterion

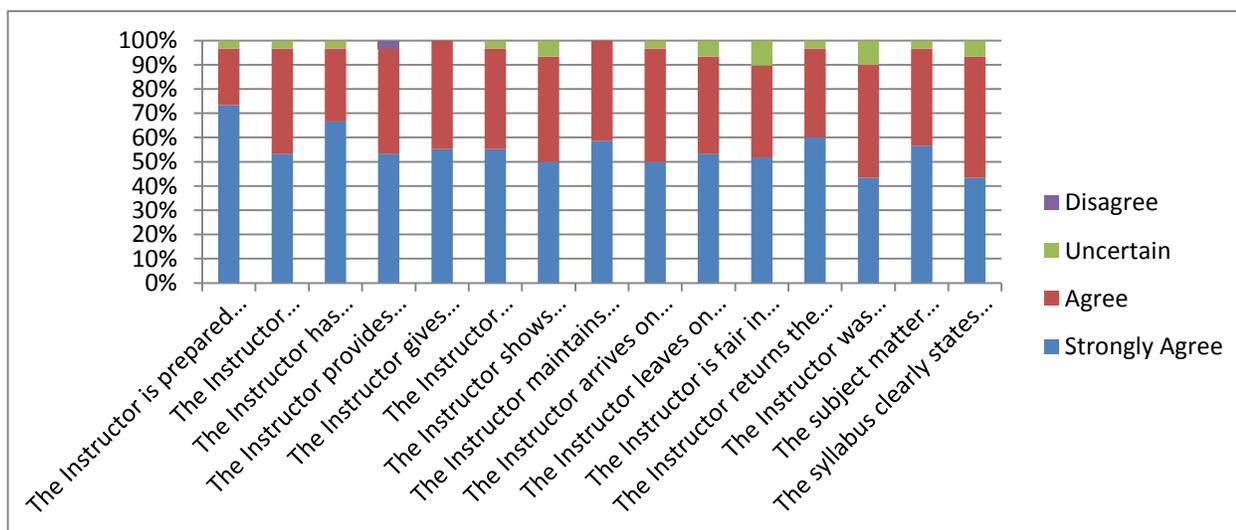


Fig: Graph showing teacher evaluation on ENT-710 during Spring 2012

Teacher’s evaluation (Dr. Asim Gulzar) on ENT 714 during Spring 2012

68% students strongly agree while that the instructor is prepared for each class. 64% students strongly agreed whereas 36% simply agreed that he demonstrates knowledge on the subject. 55% students

strongly agreed, 45% agreed, that their course was completely covered by the instructor. 55% student strongly agreed, 45% agreed that he provides additional material apart from the text. 55% are strongly agreeing, 45% agreed that he gave citations regarding current situations in reference to Pakistan. 60% strongly agree, 36% agreed that the instructor communicates the subject matter every effectively. 55% were strongly agreed, 45% agree that the instructor has shown respect shown towards the students and encouraging class participation. 45% students strongly agreed & 55% agreed that the instructor maintains the environment that is conducive to learning. 73% were strongly agreed and 27% agreed that the instructor is very punctual. 77% strongly agree and 23% agree that he leaves the class in time. 59% were strongly agreed, 41% agreed that the instructor is fair in examination. 64% were strongly agreed and 46% agreed that he returns the graded script in a reasonable amount of time. 59.09% students strongly agree, 41% agreed that the instructor was available during the specified office hours and for after class consultation. 64% were strongly agreed, 36% agreed that the subject matter presented in the course has increased their knowledge on the subject. 50% students strongly agreed and 45% simply agreed and 5% were uncertain that the syllabus clearly states course objectives requirements, procedures and grading criterion.

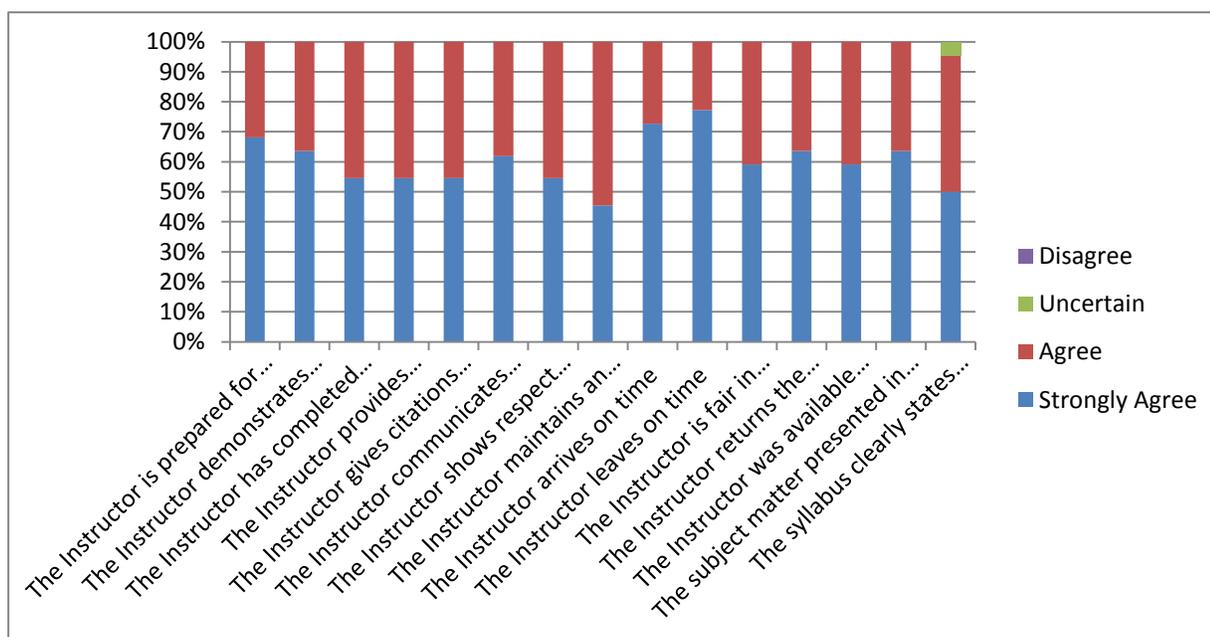


Fig: Graph showing teacher evaluation on ENT-708 during spring 2012

Students Course Evaluation (Performa 1)

Students Course Evaluation (Dr. I mran Bodlah) on ENT-703 during spring 2012

46.67% students strongly agreed whereas 53.33% that the Course objectives were clear. 40% students strongly agreed whereas 53.33% simply agreed and 3.33% were uncertain that the Course workload was manageable. 46.67% students strongly agreed, 50% agreed that the Course was well organized. 56.67% student strongly agreed, 13% agreed & 3.33% were uncertain the approximate level of student own attendance during the whole Course. 30% are strongly agreeing, 56.67% agree and 10% were uncertain that student participated actively in the Course. 36.67% strongly agreed, 56.67% agreed that I think student have made progress in this Course. 36.67% students strongly agreed, 60% agreed I think the Course was well structured to achieve the learning outcomes. 43.33% were strongly agreed and 53.33% agreed and 3.33% were uncertain that the learning and teaching methods encouraged participation. 33.33% strongly agree and 60% agreed the overall environment in the class was conducive to learning. 36.67 % were strongly agreed, 56.67% agreed and 3.33% were uncertain that the classrooms were satisfactory. 40% were strongly agreed, 60% agreed that learning materials were relevant and useful. 36.67% students strongly agree, 56.67% agreed that recommended reading books etc. were relevant and appropriate. 26.67% were strongly agreed, 63.33% agreed and 6.67% were uncertain the provision of learning resources in the library was adequate and appropriate. 46.67% students strongly agreed and 46.67% simply agreed and 3.33% were uncertain that the provision of learning resources on the web was adequate and appropriate. 43.33% students strongly agreed whereas 56.67% were agreed that the provision of learning resources on the web was adequate and appropriate. 26.67% are strongly agreed and 70% agreed the pace of the course was appropriate. 43.33% strongly agreed and 53.33% agreed that the ideas and concepts were presented clearly. 40% strongly agreed and 56.67% simply agreed that the method of assessment were reasonable. 50% were strongly agreed, 40% agreed and 6.67% were uncertain that Feedback on assessment was timely. 46.67% students strongly agreed and 40% simply agreed and 6.67% were uncertain feedback on assessment was helpful. 46.67% students strongly agreed whereas 50% were agreed that student understood the lectures. 40% are strongly agreed and 53.33% agreed the material was well organized and presented. 53.33% strongly agreed and 43.33% agreed that the instructor was responsive to student needs and problems. 60% strongly agreed and 36.67% simply agreed that had the instructor been regular throughout the course? 30% students strongly agreed whereas 60% were agreed and 3.33 % were uncertain that the material in the tutorials was useful. 40% are strongly agreed and 46.67% agreed and 3.33% were uncertain that student was happy with the amount of work needed for tutorials. 30% strongly agreed and 60% agreed and 3.33% were uncertain that the tutor dealt effectively with my problems. 40% strongly agreed and

43.33% simply agreed that the materials in practical were useful. 26.67% strongly agreed and 60% simply agreed that the demonstrators dealt effectively with my problems.

Students Course Evaluation (Dr. M. Tariq) on ENT-708 during spring 2012

41.66% students strongly agreed whereas 50% and 8.33% were uncertain that the Course objectives were clear. 41.66667% students strongly agreed whereas 58.33% simply agreed that the Course workload was manageable. 66.66% students strongly agreed, 25% agreed that the Course was well organized. 8.33% student strongly agreed that the approximate level of student own attendance during the whole Course.

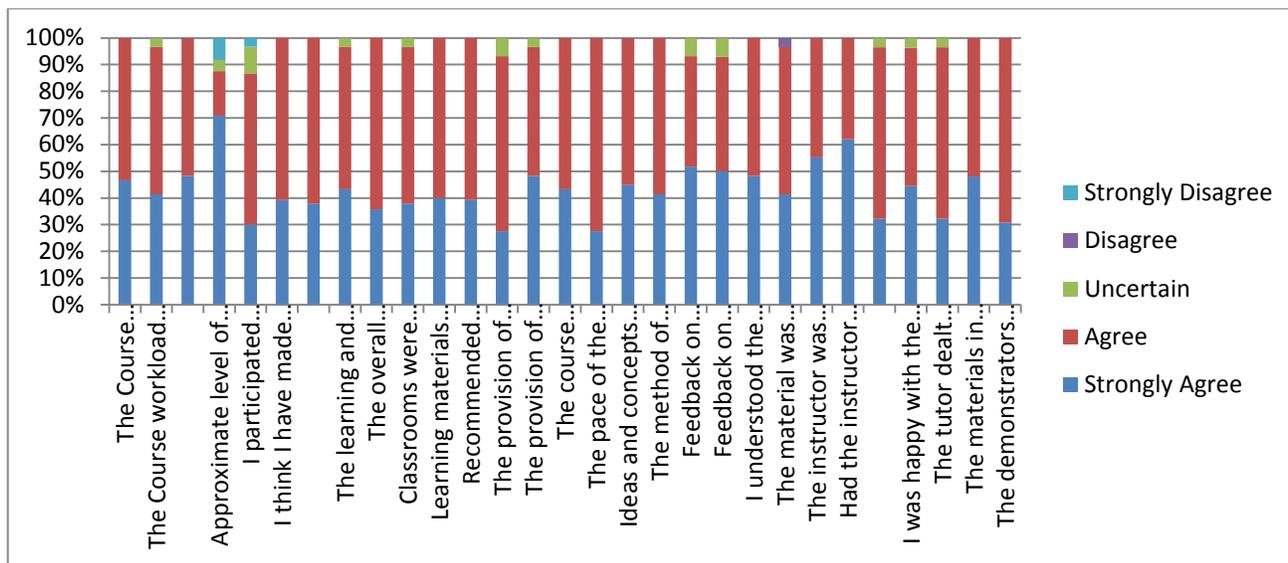


Fig: Graph showing student course evaluation on ENT 703 during spring 2012

50% are strongly agreeing, 41.66% agree and 8.33% were uncertain that student participated actively in the Course. 66.66% strongly agreed, 33.33% agreed that I think student have made progress in this Course. 50% students strongly agreed, 50% agreed that I think the Course was well structured to achieve the learning outcomes. 50% were strongly agreed and 50% agreed and that the learning and teaching methods encouraged participation. 66.66% strongly agree and 33.33% agreed that the overall environment in the class was conducive to learning. 50% were strongly agreed, 41.66% agreed and 8.33% were uncertain that the classrooms were satisfactory. 41.66% were strongly agreed, 58.33% agreed that learning materials were relevant and useful. 50% students strongly agree, 41.66% agreed that recommended reading books etc. were relevant and appropriate. 75% were strongly agreed, 25% agreed that the provision of learning resources in the library was adequate and appropriate. 58.33%

students strongly agreed and 33.33% simply agreed and 8.33% were uncertain that the provision of learning resources on the web was adequate and appropriate. 50% students strongly agreed whereas 50% were agreed that the provision of learning resources on the web was adequate and appropriate. 50% are strongly agreed and 50% agreed that the pace of the course was appropriate. 66.66% strongly agreed and 33.33% agreed that the ideas and concepts were presented clearly. 33.33% strongly agreed and 41.66% simply agreed the method of assessment was reasonable. 41.66% were strongly agreed, 25% agreed that Feedback on assessment was timely. 50% students strongly agreed and 16.66% simply agreed feedback on assessment was helpful. 33.33% students strongly agreed whereas 41.66% were agreed that student understood the lectures. 33.33% are strongly agreed and 16.66% agreed and 8.33% were uncertain that the material was well organized and presented. 50% strongly agreed and 16.66% agreed that the instructor was responsive to student needs and problems. 33.33% strongly agreed and 25% simply agreed that had the instructor been regular throughout the course? 33.33% students strongly agreed whereas 33.33% were agreed that the material in the tutorials was useful. 41.66% are strongly agreed and 16.66% agreed and 8.33% were uncertain that student was happy with the amount of work needed for tutorials. 50% strongly agreed and 16.66% agreed that the tutor dealt effectively with my problems. 33.33% strongly agreed and 41.66% simply agreed that the materials in practical were useful. 33.33% strongly agreed and 16.66% simply agreed that the demonstrators dealt effectively with my problems.

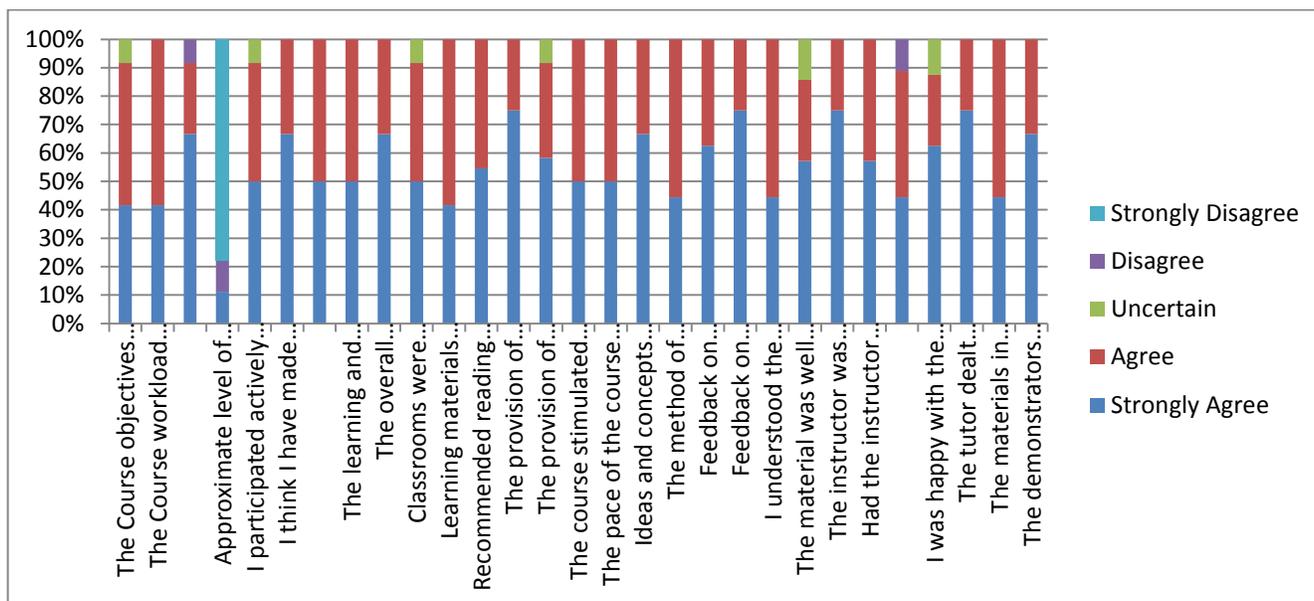


Fig: Graph showing student course evaluation on ENT 708 during spring 2012

Students Course Evaluation (Dr. Humayun Javed) on ENT-710 during spring 2012

53.33% students strongly agreed whereas 43.33% that the Course objectives were clear. 36.67% students strongly agreed whereas 60% simply agreed that the Course workload was manageable. 53.33% students strongly agreed, 40% agreed that the Course was well organized. 63.33% student strongly agreed, 26.67% agreed & 3.33% were uncertain the approximate level of student own attendance during the whole Course. 36.67% are strongly agreeing, 60% agree and 3.33% were uncertain that student participated actively in the Course. 40% strongly agreed, 56.67% agreed that I think student have made progress in this Course. 43.33% students strongly agreed, 50% agreed and 6.67% were uncertain that I think the Course was well structured to achieve the learning outcomes. 43.33% were strongly agreed and 50% agreed and 3.33% were uncertain that the learning and teaching methods encouraged participation. 36.67% strongly agree and 56.67% agreed and 6.67% were uncertain that the overall environment in the class was conducive to learning. 53.33 % were strongly agreed, 43.33% agreed and 3.33% were uncertain that the classrooms were satisfactory. 43.33% were strongly agreed, 46.67% agreed and 6.67% were uncertain that learning materials were relevant and useful. 40% students strongly agree, 40% agreed and 20% were uncertain that recommended reading books etc. were relevant and appropriate. 36.67% were strongly agreed, 53.33% agreed and 6.67% were uncertain the provision of learning resources in the library was adequate and appropriate. 36.67% students strongly agreed and 53.33% simply agreed and 10% were uncertain that the provision of learning resources on the web was adequate and appropriate. 40% students strongly agreed whereas 53.33% were agreed that the provision of learning resources on the web was adequate and appropriate. 33.33% are strongly agreed and 60% agreed and 3.33% were uncertain that the pace of the course was appropriate. 40% strongly agreed and 50% agreed and 6.67% were uncertain that the ideas and concepts were presented clearly. 53.33% strongly agreed and 26.67% simply agreed and 3.33% were uncertain the method of assessment was reasonable. 36.67% were strongly agreed, 46.67% agreed that Feedback on assessment was timely. 43.33% students strongly agreed and 36.67% simply agreed and 3.33% were uncertain feedback on assessment was helpful. 46.67% students strongly agreed whereas 36.67% were agreed that student understood the lectures. 43.33% are strongly agreed and 40% agreed the material was well organized and presented. 46.67% strongly agreed and 33.33% agreed that the instructor was responsive to student needs and problems. 40% strongly agreed and 43.33% simply agreed that had the instructor been regular throughout the course? 40% students strongly agreed whereas 36.67% were agreed that the material in the tutorials was useful. 43.33% are strongly agreed and 33.33% agreed that student was happy with the amount of work needed for tutorials. 26.67%

strongly agreed and 43.33% agreed that the tutor dealt effectively with my problems. 46.67% strongly agreed and 33.33% simply agreed and 3.33% were uncertain that the materials in practical were useful. 40% strongly agreed and 43.33% simply agreed that the demonstrators dealt effectively with my problems.

Students Course Evaluation (Dr. Asim Gulzar) on ENT 714 during spring 2012

50% students strongly agreed whereas 50% that the Course objectives were clear. 40.99% students strongly agreed whereas 59% simply agreed that the Course workload was manageable. 40.99% students strongly agreed, 59% agreed that the Course was well organized.

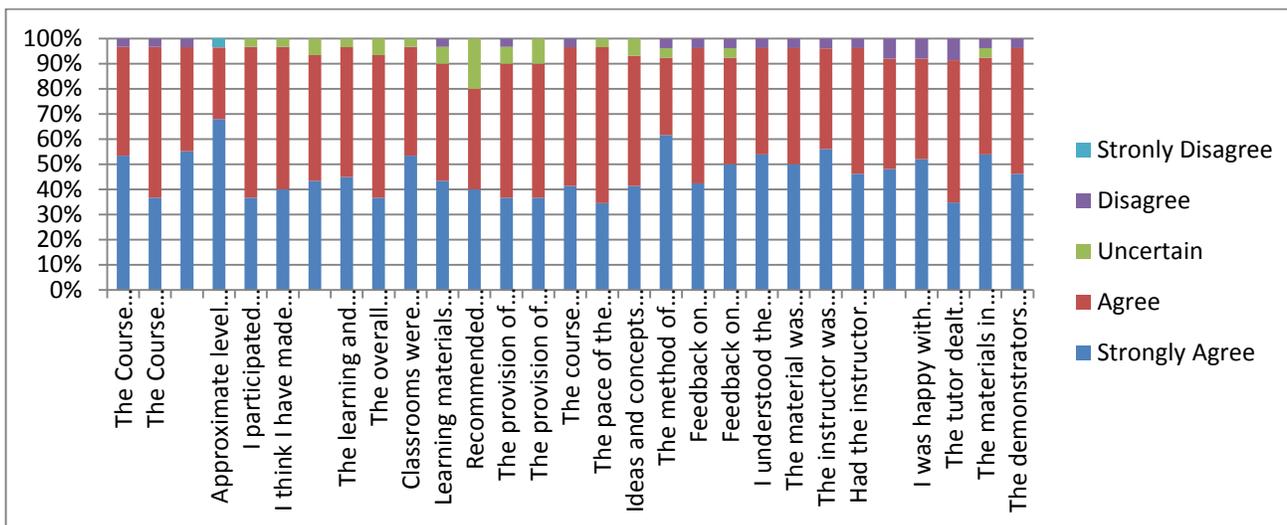


Fig: Graph showing student course evaluation on ENT 710 during spring 2012

9% were uncertain the approximate level of student own attendance during the whole Course. 36.33% are strongly agreeing, 59% agree and 4.55% were uncertain that student participated actively in the Course. 27.27% strongly agreed, 72.72% agreed that I think student have made progress in this Course. 45.45% students strongly agreed, 54.45% agreed I think the Course was well structured to achieve the learning outcomes. 54.54% were strongly agreed and 45.45% agreed that the learning and teaching methods encouraged participation. 45.45% strongly agree and 54.54% agreed the overall environment in the class was conducive to learning. 54.54% were strongly agreed, 31.81% agreed and 9.08% were uncertain that the classrooms were satisfactory. 40.90% were strongly agreed, 54.45% agreed and 4.54% were uncertain that learning materials were relevant and useful. 45.45% students strongly agree, 50% agreed and 4.54% were uncertain that recommended reading books etc. were relevant and

appropriate. 36.36% were strongly agreed, 59% agreed and 4.54% were uncertain the provision of learning resources in the library was adequate and appropriate. 50% students strongly agreed and 45.45% simply agreed and 4.54% were uncertain that the provision of learning resources on the web was adequate and appropriate. 36.36% students strongly agreed whereas 59% were agreed and 4.54% were uncertain that the provision of learning resources on the web was adequate and appropriate. 40.90% are strongly agreed and 54.54% agreed and 4.54% were uncertain that the pace of the course was appropriate. 50% strongly agreed and 50% agreed that the ideas and concepts were presented clearly. 54.54% strongly agreed and 40.90% simply agreed that the method of assessment were reasonable.

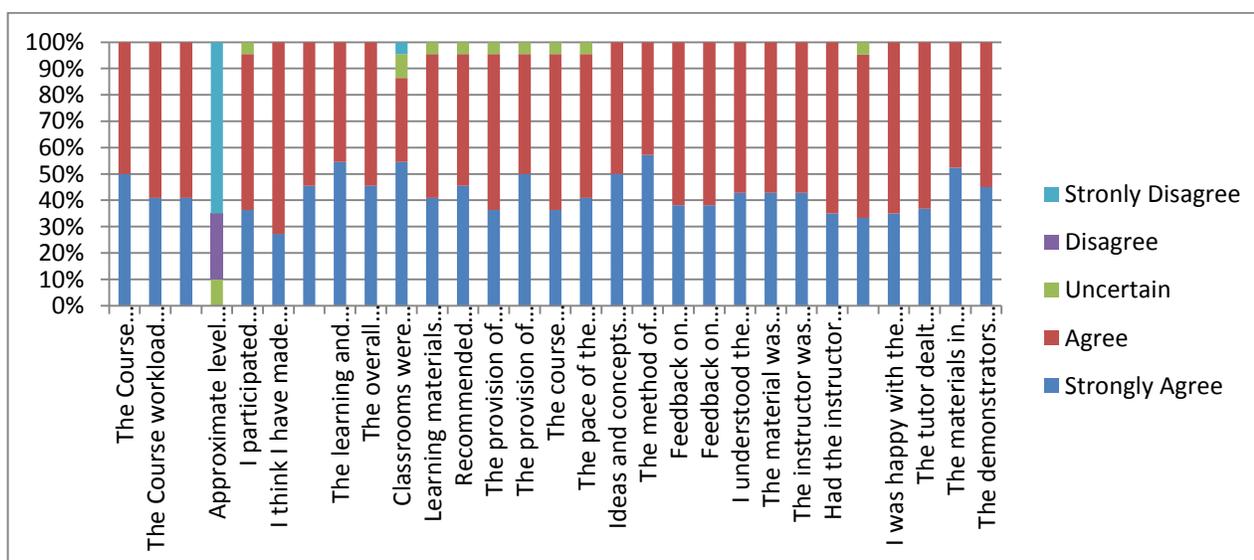


Fig: Graph showing student course evaluation on ENT 714 during spring 2012

36.36% were strongly agreed, 59% agreed that Feedback on assessment was timely. 36.36% students strongly agreed and 59% simply agreed feedback on assessment was helpful. 40.90% students strongly agreed whereas 54.54% were agreed that student understood the lectures. 40.90% are strongly agreed and 54.54% agreed the material was well organized and presented. 40.90% strongly agreed and 54.54% agreed that the instructor was responsive to student needs and problems. 31.81% strongly agreed and 59% simply agreed that had the instructor been regular throughout the course? 31.81% students strongly agreed whereas 59% were agreed and 4.54% were uncertain that the material in the tutorials was useful. 31.81% are strongly agreed and 59% agreed that student was happy with the amount of work needed for tutorials. 31.81% strongly agreed and 59% agreed that the tutor dealt effectively with my problems. 50% strongly agreed and 45.45% simply agreed that the materials in

practical were useful. 40.90% strongly agreed and 50% simply agreed that the demonstrators dealt effectively with my problems.

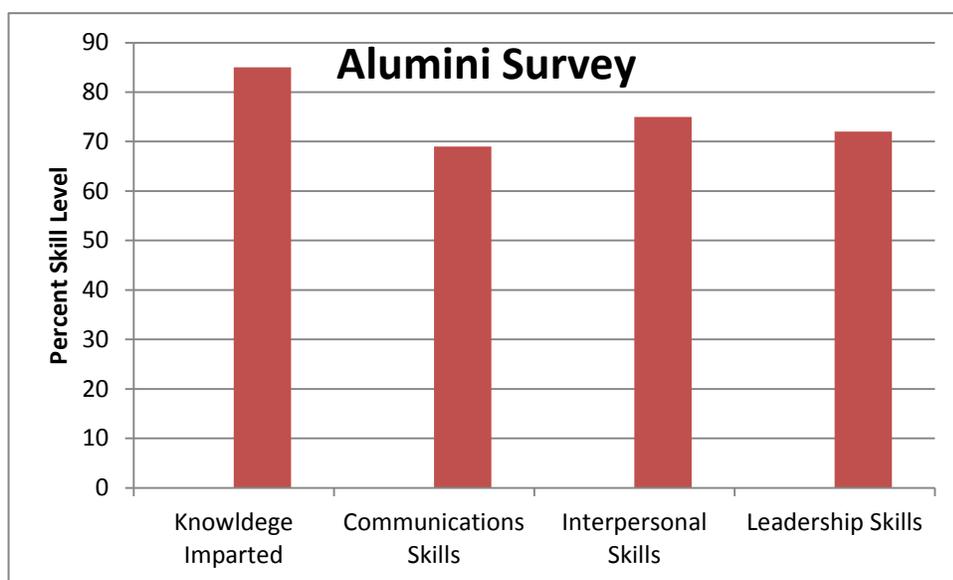
Faculty Course Review Report

In total seven courses were taught during the reported (Performa-2). A total of 12-30 students got registered in these courses; among these 7.1-100.0% scored A grade, 9.1-47.4% scored B grade and 13.6-23.5% scored C grade. The courses were found very much appropriated and in line with the curriculum and intended objectives.

Fall 2010 to Spring 2012													
Course code	Title	Credit value	Assessment Methods/ Exam	No. of students	Comments on Curriculum	Any change in course for future	Semester	Grade (%)					Course Instructor
								A	B	C	D	F	
ENT-708	Insect Molecular Biology	3(2-2)	Mid &Final Exams	12	-	-	Fall-10	58.33	41.67	0.0	0.0	0.0	Dr. Ata-ul-Mohsin
ENT-703	Environmental Entomology	2(2-0)	Mid &Final Exams	19	-	-	Spring-11	26.3	42.1	26.3	0.0	5.3	Dr. M. Naeem
ENT-710	Insects in Relation to Plant Disease	3(2-2)	Mid &Final Exams	32	-	-	Spring-11	50.0	34.4	9.4	0.0	6.3	Dr. Ata-ul-Mohsin
ENT-714	Insecticide Toxicology	3(2-2)	Mid &Final Exams	19	-	-	Spring-11	21.1	47.4	26.3	5.3	0.0	Dr. Munir Ahmed
ENT-701	Research Methods in Entomology	4(2-4)	Mid &Final Exams	14	-	-	Fall-11	78.6	21.4	0.0	0.0	0.0	Dr. M. Naeem
ENT-711	Medical and Veterinary Entomology	3(2-2)	Mid &Final Exams	19	-	-	Fall-11	36.8	31.6	31.6	0.0	0.0	Dr. Humayun Javed
ENT-717	Advances in Biological Control	3(2-2)	Mid &Final Exams	39	-	-	Fall-11	56.4	43.6	0.0	0.0	0.0	Dr. Ata-ul-Mohsin
ENT-721	Pesticide Application Equipments	3(1-4)	Mid &Final Exams	22	-	-	Fall-11	63.6	36.4	0.0	0.0	0.0	Dr. Munir Ahmed
ENT-703	Environmental Entomology	2(2-0)	Mid &Final Exams	30	-	-	Spring-12	73.3	23.3	0.0	0.0	3.33	Dr. Imran Bodlah
ENT-708	Insect Molecular Biology	3(2-2)	Mid &Final Exams	8	-	-	Spring-12	100	0.0	0.0	0.0	0.0	Dr. M. Tariq
ENT-710	Insects in Relation to Plant Disease	3(2-2)	Mid &Final Exams	28	-	-	Spring-12	7.1	64.3	28.6	0.0	0.0	Dr. Humayun Javed
ENT-714	Insecticide Toxicology	3(2-2)	Mid &Final Exams		-		Spring-12	81.8	9.1	4.6	0	0	Dr. Asim Gulzar

Alumni Survey Results

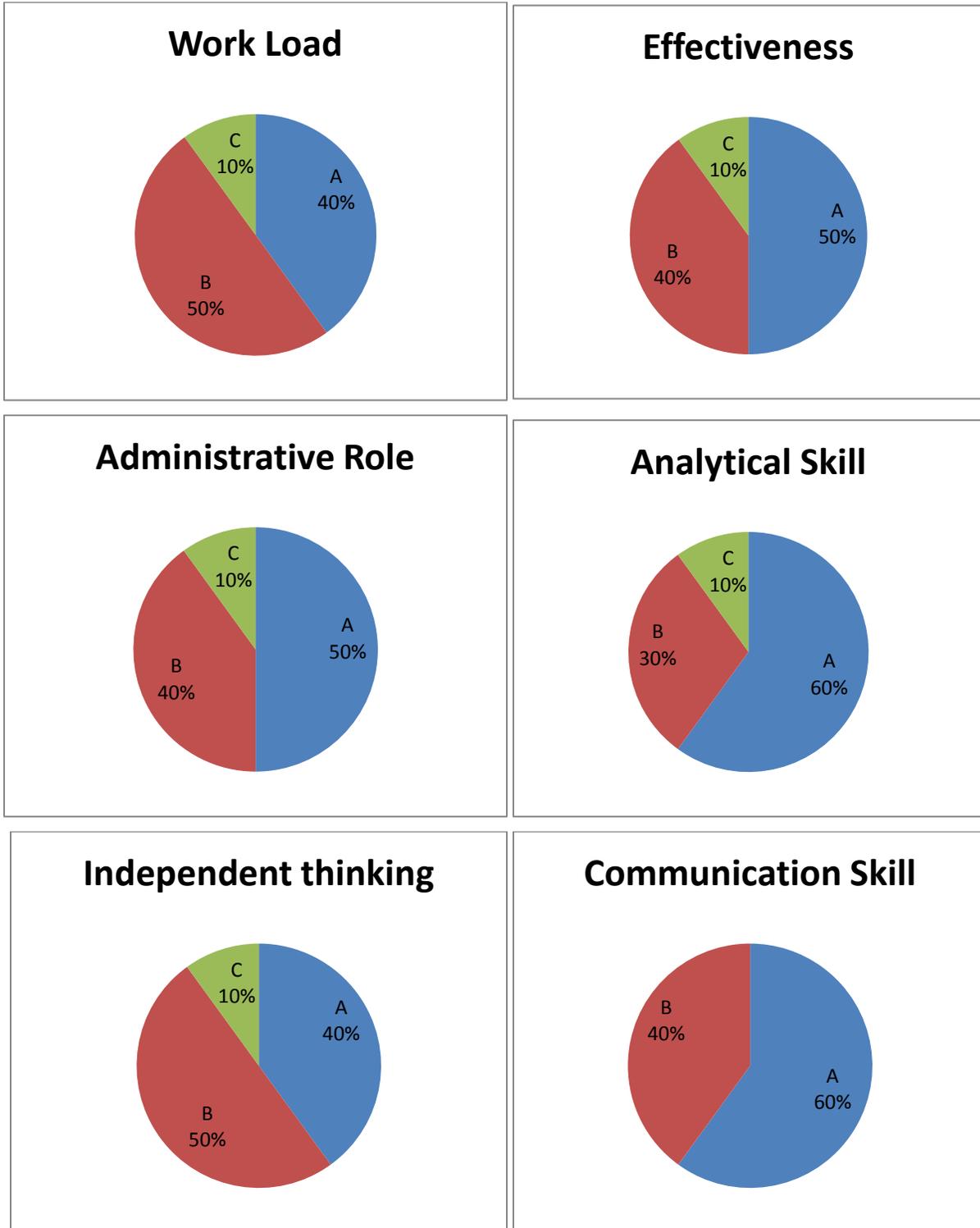
Department of Entomology conducted a survey of 15 alumni using Proforma –7. The proforma was provided to the students to get the required information and feedback. The results generated from the information are given in Fig. given below. Interpersonal skills have been given grade B by a majority of the alumni whereas they have rated the management/leadership skills at grade B. The infrastructure of the department has is considered verygood, and reputation of the department at national level in a very good. Majority of the alumni have rated the knowledge imparted by the department at grade A (Excellent) and with respect to the communication skills it falls in low B grade. The alumni have suggested arranging more field vists for the students.



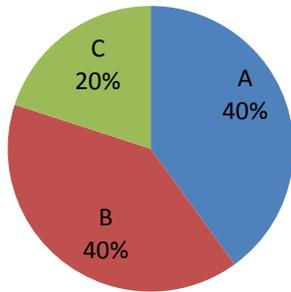
Survey of the Graduating Students

The survey regarding post-graduate students (MSc Hons.) was conducted by gathering information from 20 students (Proforma # 3) The programme assessment is depicted in the for of pie charts. It is evident from the graphical data that majority of the students reported about their satisfaction with the programme followed by the students who expressed their views as very satisfied. However, very few students were dissatisfied incase of analytical skill and objective achievement. A segment of the respondents also expressed heir views as uncertain incase of advanced curriculum, planning abilities, work load, effectiveness, administrative role,

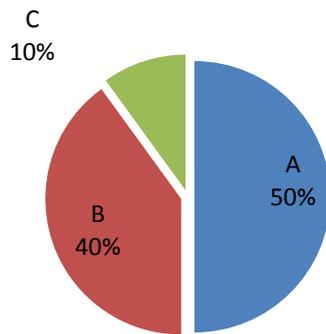
independent thinking, capable faculty and co-curricular activities. Detailed graphical presentation of the data is given below in the form of pie graphs.



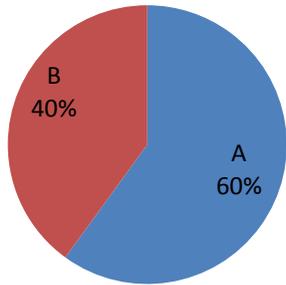
Planning abilities



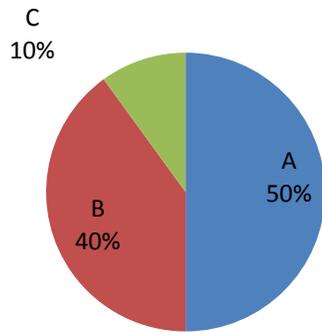
Objective achievement



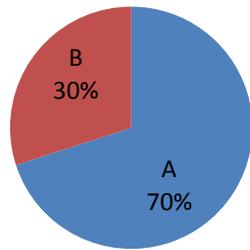
Capable Faculty



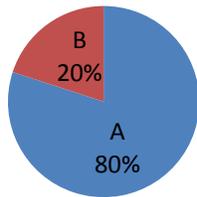
Advanced Curriculum



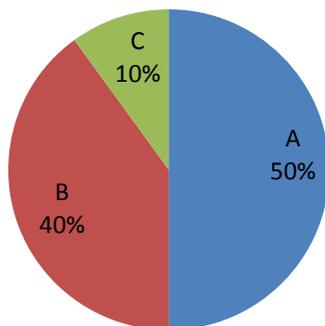
Conducive Environment



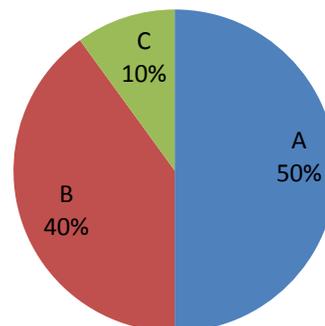
Departmental Infrastructure



Co-curricular activities



Financial Support



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

Strength of the Department

Entomology department has a regular activity regarding inhouse accountability or review of the previous semester to discuss achievements, performance, attitude and regularity of the students. The main strength of the department is the urge and desire to promote the entomological knowledge and research to solve the field problems relating to crop pests, systematics, pesticide resistance, food security and economic entomology. So far as equipment and laboratories are concerned; through HEC funded project entitled” Strengthening of Entomology Department” procurement of required equipment and upgradationof laboratories had been done which would be a big support in upgradation of both educational and research activities at the department.

Weakness Identified In the Program

The department is facing acute shortage of:

- Lack of Electron microscope and Growth chambers and equipment related to molecular techniques etc.
- With the increase in students’ registration a severe dearth of space (class rooms) is being felt.

Standard 1-4: **The department must assess its overall performance periodically using quantifiable measures**

Present Performance Measures for Research Activities

Table 3 Research Performance of the Faculty

Faculty	Journal Publications (National & International)	Conference Publications (Proceedings Abstract)	Projects
Dr. Muhammad Naeem	5	-	1
Dr. Humayun Javed	4	-	-
Dr. Ata-ul-Mohsin	7	-	2
Dr. Munir Ahmed	2	2	2
DR. Muhammad Tariq	4	-	-
Dr. Asim Gulzar	2	-	1
Dr. Imran Bodlah	13	1	0

Community Services by the Department

- Participated in “Kisan Mela” organized by PMAS-Arid Agriculture University Rawalpindi at University Research Farm, Chakwal Road
- Dengue management campaign at university
- Pest identification service for the visiting farmers and recommendation of pest management methodology
- A three days workshop on “Apiculture Orientation Program: was organized for the bee keepers to get deep insight regarding bee keeping

Faculty Satisfaction Regarding the Administrative Services

- A good level of management and performance has been maintained at departmental level and the faculty member reported a good level of satisfaction.

Major Future Improvement Plans

Keeping under consideration the previous evaluation / monitoring activity, the department is focusing specifically on:

- Up-gradation of classrooms is a dire need to deliver an excellent level of teaching.
- Better teaching/learning environment and standards are needed to be maintained for better output.
- Preparation and submission of research projects.
- To plan and execute problem oriented research on local and serious crop pests prevalent in the arid ecology.
- Improve the capacity of the faculty members to get more exposure about the changing scenario of the international research and activities concerning Entomology

Table: 4 Quantitative Assessment of the Department

Sr.#	Particular	No.	Remarks
i	MSc. Produced	120	In employment
ii	Students: Faculty ratio	15:1	Fulfils HEC criteria
iii	Technical: Non Technical ratio	4:5	Fulfils HEC criteria
iv	Average grade point	Around 3	Fulfils HEC criteria

The assessment exhibited high efficiency of system and adequate impact of outcomes.

The pre-requisites for the admission in MSc (Hons) Agri Ento degree program are given as below:

Degree

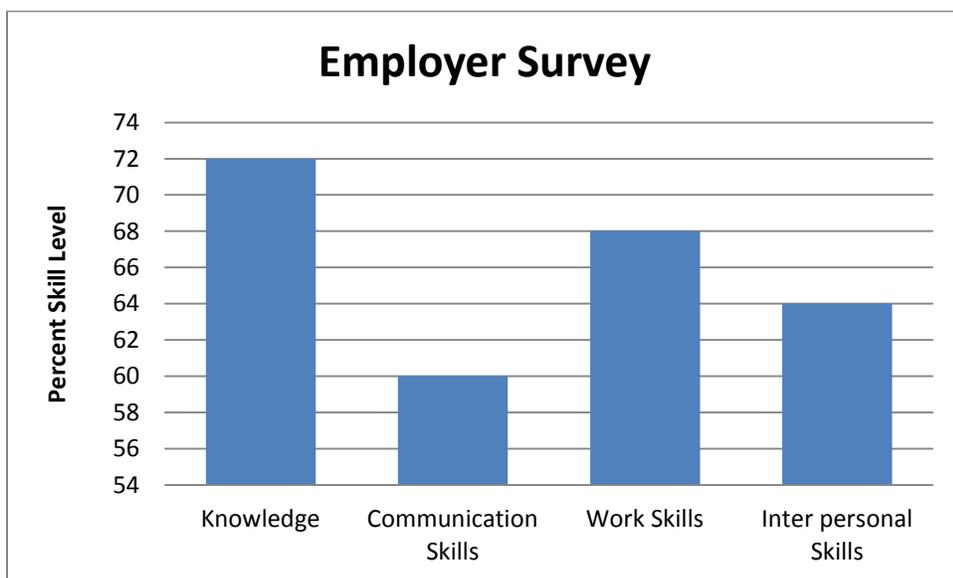
M.Sc. (Hons) Agric. Entomology

Pre-requisites

B.Sc. (Hons) Agric. with Entomology as major subject, entry test

Employer Survey:

Using Proforma 8, Employer survey for the determination of student skills was conducted from the different organization. Survey shows that our post-graduate students fall above average in all areas except communication skills. The weakness of communication skills will be tried to improve for our current and future students.



Majority of the employers were satisfied with potential of our students in handling entomological problems independently. Performance of our students was appreciated by the employers. Some employers suggested that students should be given opportunity to take up courses on communication skills before they are awarded degrees. Besides some office management courses have also been suggested to be included in the curricula.

CRITERION 2: CURRICULUM DESIGN AND ORGANISATION

DEGREE PLAN

MSc (Hons) Agriculture (Entomology)

A candidate having CGPA = 2.75 or its equivalent marks in MSc (Hons) Agriculture with 50% marks in a field of study relating to the subject can get admission. Minimum grade point average for obtaining Master's Degree is 2.50. At present all the faculty members of the Department are Ph.Ds. The department is strictly following HEC instructions and guidelines in relation to admission, examination and performance evaluation of MSc students.

➤ **Curriculum course requirements for MSc Entomology degree is summarized below.**

The requirement to be completed by each student for the award of degree is 45 credits (35 credits of course work and 10 credits of research thesis 9not to be counted towards CGPA). Each student doing MSc (Hons) Agriculture (Entomology) with thesis will have a supervisory committee to advise him in program of studies and research. A student shall be entitled to submit thesis for examination after he/she has passes all the final examinations in the approved courses and comprehensive examination provided he/she has also fulfilled the residential requirements.

Standard 2-1: The curriculum must be consistent and support the program’s documented objectives.

The assessment of curriculum is done in the table given below and the courses are cross tabulated in accordance with the program outcomes.

Table 5 Courses Taught during the semester Versus Outcome

Course/ Groups of courses	Out comes						
	1	2	3	4	5	6	7
Ent-708, Ent-709, Ent-715, Ent-716, Ent-719,	+++	++++	+++	++++	++++	+++	+++
Ent-710, Ent-711, Ent-712, Ent-713, Ent-714	++++	++++	++++	++	+++	++	++++

+ = Relevant

++ = Relevant & satisfactory

+++ = Very relevant & Very satisfactory

++++ = Highly relevant & Highly satisfactory

- The curriculum fits very well and satisfies the core requirements for the program, as specified the respective accreditation body.
- The curriculum satisfied the general arts and professional and other discipline required for the program according to demands and requirements set by the Higher Education Commission.

Standard 2-2: Theoretical backgrounds, problem analysis and solution design must be stressed within the program’s core material.

Table 6: Programme Courses corresponding to theoretical background, problem analysis and solution design.

Elements	Courses
Theoretical backgrounds	Ent-710, Ent-712
Problem analysis	Ent-714, Ent-701,
Solution design	Ent-704, Ent-705, Ent-706, Ent-708, Ent-709, Ent-716, Ent-719, Ent-720

Standard 2-6: Information Technology Component of the Curriculum Must Be Integrated Throughout The Program:

While the curriculum was prepared, all aspects of information technology were considered and after a critical analysis, relevant aspects were integrated into the program.

Standard- 2.7: Oral and written communication skills of the student must be developed and applied in the program.

- Students of MSc (Hons) Agriculture (Entomology) are assigned presentations and group works during different courses which are presented in the class to develop and enhance their written and oral communication and motivation skills.

CRITERION 3: LABORATORIES AND COMPUTER FACILITIES

There are six laboratories in the department. The facilities and shortcomings of these laboratories are listed as under.

- Laboratory Title:
 - Biosystematics laboratory
 - Biocontrol laboratory
 - Insect Toxicology Laboratory
 - Stored grain insect laboratory

- Apiculture laboratory
- Non Apis Bee Laboratory
- Mosquito Research Laboratory
- Location and Area: Faculty of Crop and Food Sciences, A-Block, 2nd Floor, Main Campus
- Objectives: Laboratories are used for:
 - Research work for the PhD scholars
 - Used for execution of the research/development projects funded by HEC, PSF, PARC, and other national and international agencies/institutions.

Future Need

- More spacious and well equipped laboratories to fulfill the contemporary level of research/education are necessitated for better output.

Standard-3.1: Laboratory manuals/documentation/instructions for experiments must be available and easily accessible to faculty and students

Laboratory manuals are not available. Presently the department library has all the relevant books. Though laboratories are not spacious but serving the purpose at limited level. The equipments are being procured and replaced as per availability of funds. Equipments regarding molecular approaches are lacking e.g. centrifuge (slow and ultr), PAGE-Electrophoresis apparatus, PCR, Spectrophotometer, relevant software and chemicals.

Standard-3.2: There must be support personal for instruction and maintaining the Laboratories.

Laboratories are maintained by only one laboratory assistant (equipment, glassware, chemicals, material etc). Three laboratories attendant assist the students in practicals, cleaning and washing.

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

- To upgrade the prevailing education facilities, separate class rooms are needed as presently classes (lectures) are taken in laboratories.
- Space limitation is a major constraint as department could not initiated some of the major subjects like sericulture, host plant resistance and insect vectors' research activities.
- **Computing facilities support:** Available to a limited number of faculty members and Post-graduate scholars.
- **Shortcoming in computing infrastructure:** Computers with internet facilities should be available to all faculty members and postgraduate students.
- **Safety Arrangements:** There is no proper safety arrangement and no security plan is in place in case of emergency. The department is located on the 2nd floor; there is no emergency exit for the labs.

CRITERION 4: STUDENT SUPPORT AND ADVISING

In order to resolve issues of post-graduate students regarding provision of guidance and information in various social and educational matters, Directorate of Students Affairs provides

an effective support. University organizes various cultural activities and study tours/visits to broaden the students knowledge and experience to be utilized in their professional carrer.

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

- In line with the HEC guidelines and Academic Council's recommendations regarding schemes of study, all the courses are offered accordingly to MSc level as per mentioned of the authorities but depend upon the availability of teachers and facilities.
- Tthe post-graduate courses (number and type) are taught as per the HEC criterion/standard.
- To meet the human resource needs in public and private sector at national level, the MSc (Hons) level courses are tailored accordingly.

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

The post-graduate courses are designed / tailored to address the teaching needs in an effective way. In this regard teaching staff and students are consulted periodically to get the feedback for further improvement. Along with theoretical aspects of the courses, practical work is also done in field/laboratories while students are also oriented to tackle their professional needs through different assignments and submission of reports. They are coupled with various institutions/organization to get updated knowledge and insight addressing their future needs.

In this regard

- Considering the feedback from students and teachers, courses are structured and updated in the board of study meeting and other periodic meetings.

This was carried out as a routine to maintain an effective interaction between students and faculty and inter and intra classes of the students.

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.

The post-graduate students are guided properly in relation to their on-going educational programs at university and also focusing their future needs.

- The subject department has developed full harmony among the faculty members and students especially the MSc students. Management has made all sorts of efforts to update their knowledge and information source.
- Students are informed about the program requirement through the office of the head of the department.
- All of the records pertaining to studies of the students are regularly updated through teacher – student interaction.

CRITERION 5: PROCESS CONTROL

Process control encompasses students' admission, students' registration, faculty recruitment activities which are dealt by various statutory bodies and the university administration.

Standard-5.1: The process by which students are admitted to the program must be based on quantitative and qualitative criteria and clearly documented. This process must be periodically evaluated to ensure that it is meeting its objectives.

- An established and recognized admission system works at university/department level. This is followed as per the rules and regulations set by the university. Admission for MSc degree is properly advertised in the newspapers having national level circulation.
- Criterion regarding admission in MSc degree course are described in definite term by the university and admission system is based upon the recommendations of supervisory committee.
- A regular process of revision of the admission criterion is well in place on yearly basis.

Standard-5.2: 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

- For the masters degree course registration of students is done once but evaluation is done a number of times through different examination stages. Successful completion of one semester ensures the promotion to the next semester.
- Recommendations regarding admission process for different departments are forwarded to the Registrar office for their formal registration as university student.
- Admission merit based upon marks percentages of previous and entry test exams etc.

Standard-5.3: The process of recruiting and retaining highly qualified faculty members must be in place and clearly documented. Also processes and procedures for faculty evaluation, promotion must be consistent with institution

mission statement. These processes must be periodically evaluated to ensure that it is meeting with its objectives

HEC guidelines are followed by the University in recruitment process. Induction of all positions at Faculty level is done as per rule:

- Different faculty positions are advertised in different newspapers of national circulation; Applications are received by the Registrar office, call letters are issued to the short-listed candidates on the basis of experience, qualification, publications and other qualities/activities as fixed by the University.
- The candidates are interviewed by the University Selection Board and Principal and alternate candidates are selected.
- Selection of candidates is approved by the Syndicate for issuing orders to join within a specified period.
- Induction of new candidates depends upon the number of approved vacancies.
- At present, no procedure exists for retaining highly qualified faculty members, however, the revised pay scales of structure is quite attractive.
- HEC also supports appointment of highly qualified members as foreign faculty Professor, National Professors and deposes them in various departments of the University.

Standard 5-4: The process and procedures used to ensure that teaching and delivery of course material to the students emphasizes active learning and that course learning outcomes are met. The process must be periodically evaluated to ensure that it is meeting its objectives

- To convey/impart the most recent advances and techniques in entomology, course curriculum are regularly revised / updated time to time.
- With the initiation of new areas/fields, new courses are set and included in the curriculum.
- It is preferred by the students to buy cheaper books of Asian Editions. These editions are also available in university library where computers, electronic journals and internet facility are made available to all faculty members and scholars.

- For effective communication, all sorts of audio visual aids are utilized in educational process.
- All the courses and knowledge imparted meet the objectives and outcome. The progress is regularly reviewed in the staff meetings.

Standard 5-5: The process that ensures that scholars have completed the requirements of the program must be based on standards, effective and clearly documented procedures. This process must be periodically evaluated to ensure that it is meeting its objectives.

- Date of commencement of examination is announced by the Controller of Examinations. After about ten to twenty days of the examinations, the controller office notifies the results of the students. The evaluation procedure involves quizzes, mid and final examinations, practicals, assignments and reports, oral and technical presentations. Candidates who secure 80% or above marks are awarded grade A; grade Gold medals are awarded to the scholars who secure highest marks in various fields. Successful students are awarded by the degrees in the annual convocation held regularly on annual basis.

CRITERION 6: FACULTY

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. The interests and qualifications of all faculty members must be sufficient to teach all courses, plan, modify and update courses and curricula. 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.

Presently there is one Professor, and seven Assistant Professors working in the MSc (Hons.) programme.

Standard 6-2: All faculty members must remain current in the discipline and sufficient time must be provided for scholarly activities and professional development. Also, effective programs for faculty development must be in place. Effective Programs for Faculty Development

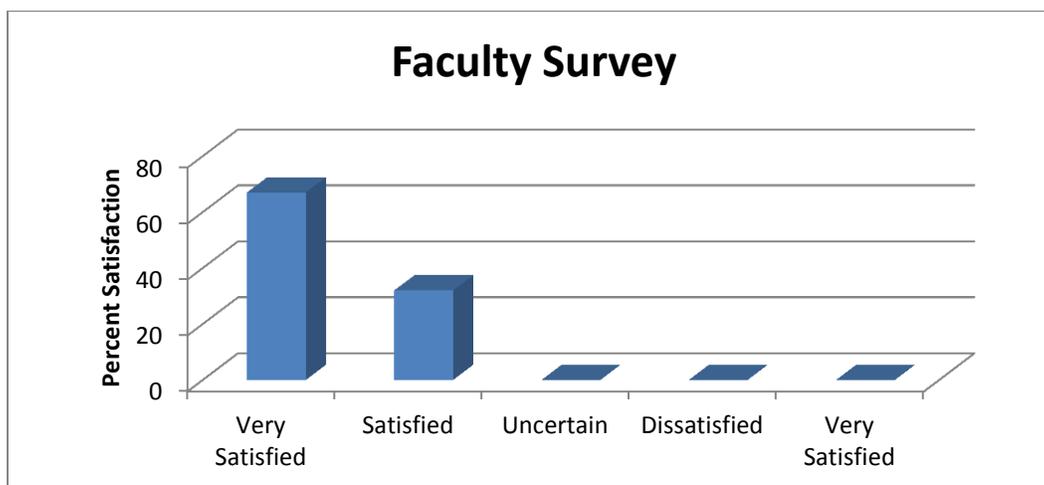
- All of the faculty members are provided with different academic, research and training facilities as per availability in the university system.
- Supervisors of MSc research are offered incentives for implementing different laboratory and filed experiments to promote high standard research activities.

Standard 6-3: All faculty members should be motivated and have job satisfaction to excel in their profession.

Faculty members are contented by the initiatives undertaken by the management in this regard. Formal and informal coaching by the senior faculty members, different entertainment events, field visits and excursions etc play a vital role in motivating the young faculty members.

Faculty Survey:

Data regarding faculty survey is presented below (Proforma 5). The results indicated that 67% of the faculty members are very satisfied while 32% are satisfied. The HEC funded project for strengthening of department will help a lot in boosting the departmental activities focusing the main objectives.



Summary and Conclusion

Presently, one Professor and seven Assistant professors are working for MSc (Hons) program. Seven faculty members are HEC approved supervisors. All of the faculty members PhD holders, experienced and have good expertise in their subjects/areas. All of the faculty members are striving with their full potential to boost the department's performance and achieve the stipulated objectives. MSc students are conducting their research work on taxonomy, host plant resistance, toxicology, apiculture, sericulture, stored grains, medical entomology (dengue management) and integrated crop pest management. The department department possesses improved infrastructure, laboratories and other facilities. Strengthening of department of Entomology project funded by HEC helped a lot to get these facilities.

There are six reaserach labs; Insect Biosystematics, Mosquito Research Lab, Stored Product Entomology, Biological Control, Insect Toxicology and Non-Apis bee research Lab and Apiculture research farm being run by the department. These labs have facilities for the MSc students like high performance liquid photography, advanced microscopy, growth chambers, incubators, rearing facilities for Non-Apis bees glass house, and testing devies for effects of stored grain insects on different commudities. These facilities have played important role in the research activities and vision of the student related to the subject. This environment also proved fruitful in getting research skills and grooming of the young professional scientists. The programme also encourages the students to get efficient communication skills and transmission

of educational material. Most of the MSc students have laptops in their laboratories provided through Scheme of Government of Punjab which are proving much helpful to search modern scientific journals world wide to improve their information, experty and efficiency. M. Sc students performed well in their studies and teachers improved in teaching, research and transmission of applied knowledge to common public. The course contents were improved by the teachers according to the need of the time. The information gathered from the survey of the alumini and graduationg students rased the nedd of better management of time and resources. Communication technologies and interpersonal skills were demanded to meet the challenges better job opportunities. Apis and Non-Apis bee laboratory, Mosquito Research Lab and Apiculutre Reasearch Farm are recently developed to promote the research activities of students in the field of pollinators, medical entomology and modern bee keeping and to help the farmers to meet their needs and manage their problems.

Performa

Faculty Resume



DR. MUHAMMAD NAEEM

Name	Dr. Muhammad Naeem
Personal	Professor Department of Entomology, Pir Mehr Ali Shah, Arid Agriculture University, Rawalpindi E-mail: naeem18ap@yahoo.co.uk muhammad.naeem@uar.edu.pk Phones: Office: +92-519062206 Cell: 03335751475
Experience	<u>PROFESSIONAL EXPERIENCE:</u> 1.Associate Professor (2006-2010): Served in Department of Entomology, PMAS-Arid Agriculture University, Rawalpindi, Pakistan. 2.Assistant Professor (2001-2005): Served as Assistant Professor, Department of Entomology, University of Arid Agriculture, Rawalpindi. 3.Lecturer (1998-2001): Served as Lecturer, Department of Entomology, University of Arid Agriculture,Rawalpindi..
Honor and Awards	
Membership	Hold memberships of the following Organisation and Societies 1992-97 Agroforestry Research Group, UK 1993-97 Pakistan Overseas Society, England 1994-95 International Student Organisation, Leeds 2002 to date The Agrics, Alumni Association, UAF. MEMBERSHIP OF VARIOUS COMMITTEES OF THE UNIVERSITY:

	S/#	Name of the Committee	Served as
	1	Tour Coordinator	Convener
	2	Time table and Date sheet Committee	Convener
	3	Comprehensive (Written & Oral) Examination Committee, Dept. Zoology, Dept. Wild life	Member
	4	Applications Scrutiny Committee for admission to B.Sc.(Hons.) Agri.	Member
	5	Scrutiny of Synopsis and Thesis, Department of Sociology and Anthropology	Member
	6	Quality control	Member
Graduate Students Postdocs Undergraduate Students Honour Students	<p><u>STATUS FOR M.Sc.(Hons.) STUDENTS UNDER MY SUPERVISION</u></p> <p>(a) Department of Entomology</p> <p><u>STATUS FOR Ph.D. STUDENTS UNDER MY SUPERVISION</u></p> <p>M.Sc.(Hons.) Students (7 Students) Ph.D. Students (3 Students)</p>		
Service Activity	Termite treatment, Household insect management in University		
Brief Statement of Research Interest	Insect biosystematics and ecology		

Publications	<p>Bodlah, I., M. Ahmad, M. F. Nasir and M. Naeem. 2010. Record of <i>Aenasius bambawale</i> Hayat, 2009 (Hymenoptera: Encyrtidae) from Punjab, Pakistan. Pakistan J. Zool. 42(5). 533-536.</p> <p>I, A Khan, M. Naeem, S. A Hassan, H. Bilal, Ata-ul- Mohsin and I. Bodlah. 2012 .Survey of trophic relationship between aphid and their primary parasitoids in Potohar. J. Insect Scie.12.78.1-9.</p> <p>Bodlah, I.M. Naeem and E. Rakhshani.2011. First record of <i>Binodoxys basicurvus</i> Shujauddin, 1973 (Hymenoptera: Braconidae, Aphidiinae) from the Punjab Province of Pakistan. Pakistan J. Zool., vol. 43(1), 202-205.</p>		
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	<p>Bodlah, I. M. A. Bodlah, T. Akhtar, M. Naeem and M. R. Khan .2011 .Record of <i>Delta dimidiatipenne</i> (Saussure, 1852) (Hymenoptera: Vespidae: Eumeninae) From Barani Areas of Punjab Province of Pakistan. Pakistan J. Zool., vol. 43(5).1019-1020.</p> <p>Bodlah, I.M. Naeem and E. Rakhshani . 2012.Genus <i>Binodoxys</i> Mackauer, 1960 (Hymenoptera: Braconidae, Aphidiinae) from Punjab Province of Pakistan. Pakistan J. Zool. 44 (2): 551-57.</p> <p>Bodlah, I. M. Naeem and A. Mohsin. 2012. Distribution, Hosts and Biology of <i>Diaeretiella rapae</i> (M'Intosh) (Hymenoptera: Braconidae: Aphidiinae) in Punjab, Pakistan. P. J. Zoology. 44(5)1307-1315.</p> <p>Arif shah, Ata Ul Mohsin, I. Bodlah and Muhammad Naeem.2012. Dubas Bug, <i>Ommatissus lybicus</i> (Tropiduchidae: Hemiptera) - A new record from Panjgur, Balochistan, Pakistan. Pakistan J. Zool., vol. 44(6).1765-1769.</p> <p>Bodlah, I. M. Naeem and E. Rakhshani .2012 .Record of Genus <i>Proan</i> Haliday (Hymenopter, Braconidae, Aphidiinae) from Arid Tract of Punjab Province of Pakistan .The Journal of Animal and Plant Sciences.22 (4) - 944.947.</p> <p>Bodlah, I. M. Naeem, M. R. Khan,M. A. Bodlah and T. A. Akhter. 2012.Genus <i>Delta</i> de saussure (Hymenoptera: Eumininae, Vespidae) from Punjab province of Pakistan. P. J. Zoology.44 (33) .759-764.</p> <p>I. Bodlah, M. A. Bodlah, M. Naeem, T. Akhter, M. F. Nasir and M.T.Chaudhry .2012. First record, distribution and biology of Psyllid, <i>Trioza flecheri</i> minor Crawford, 1912 from Punjab Province. Pak. J. Zool. 44(5), 1361-1365.</p>
Research Grants and Contracts	
Other Research or Creative Accomplishments	Three species of aphid parasitoids new to science
Selected Professional Presentations	

RESUME OF DR. ATA UL MOHSIN

Name	Dr. Ata ul mohsin
Personal	House No. 7, St. # 1, Sanobar Hill, Satra Meel, Bhara Kaho, Islamabad mohsin.malik1@hotmail.com Tel. 0300-5504577, 051-255056
Experience	<p>May 07, 2008 – To date Assistant Professor (Higher Education Commission Pakistan) Department of Entomology Arid Agriculture University, Murree road, Rawalpindi</p> <p>July 01, 2004 - To Jan. 31, 2008 National Project Coordinator National Urban Poverty Alleviation Programme (United Nations Development Programme) Services Block, Univ. of Arid Agriculture Murree Road, Rawalpindi</p> <p>February 01, 2004-June 30, 2004 Project Manager National Urban Poverty Alleviation Program – AJK (United Nations Development Programme) Planning & Development Department, New Secretariat Muzaffarabad, AJK</p> <p>October, 2002 – December 2003 Assistant Project Manager/IPM Specialist Area Development Project South AJK (United Nations Development Programme) Forest Office Premises, Allama Iqbal Road Mirpur, AJK</p> <p>January 1998 to Oct. 2002 IPM Specialist Neelum and Jhelum Valleys Community Development Project, Muzaffarabad (UNDP) Area Development Project South AJK Mirpur (UNDP) Area Development Program, AJ&K. (PAK/96/005) (UNDP)</p> <p>May 1997 to December 1997 Scientific officer Integrated Pest Management Institute NARC, Islamabad</p> <p>August 1986-May 1992 Scientific officer Entomological Research Laboratories</p> <p>December 85 - August 86 Assistant Research Officer Fodder Research Institute Sargodha, Pakistan</p>
Honor and Awards	<p>SCHOLARSHIPS AWARDED</p> <ul style="list-style-type: none"> • Benevolent Fund Scholarship during Higher Secondary School Certificate • University Merit Scholarship during B.Sc. (Hons.) degree course • Pakistan Atomic Energy Commission Talent Scholarship, during Master degree course • Cultural Exchange Scholarship during Ph.D. <p>DISTINCTIONS/ AWARDS</p> <ul style="list-style-type: none"> • <i>Silver medal in university Debates Univ. of Agriculture Faisalabad Certificate of Merit, 1985-86.</i>

	<ul style="list-style-type: none"> • 2nd position in M.Sc. (Hons.) degree course among 50 students class Entomology Deptt. U.A. Faisalabad • 2nd position in B.Sc. (Hons.) degree course among 45 students class Entomology Dept.U.A. Faisalabad • 3rd position in Arabic language Diploma Course at University of Agri. Faisalabad • Letter of Appreciation from Chairman, Pakistan Agricultural Research Council, Islamabad. • A number of shields awarded in recognition of developmental work in UNDP funded projects
Membership	<p>ASSOCIATION WITH SCIENTIFIC AND PROFESSIONAL ORGANIZATIONS</p> <ul style="list-style-type: none"> • Member of Pakistan Congress of Zoology • Member of Pakistan Entomological Society • Professional Member of Human Resource Development Network (HRDN), Islamabad, Pakistan. <p>MEMBER OF EDITORIAL BOARD</p> <ul style="list-style-type: none"> • Co-Editor of “Idrak” a quarterly news paper of Neelum and Jhelum Valleys Community Development Project, Muzaffarabad. 1998-2001. • Editor of “Telepest” A pest management Newsletter of Neelum and Jhelum Valleys Community Development Project, Muzaffarabad.1998-2001. • Editor of Quarterly Newsletter “AKS”, ADP South AJK,Mirpur. • Editor of “NUPAP Newsletter” of National Urban Poverty Alleviation Programme, a UNDP founded project .
Graduate Students Postdocs Undergraduate Students Honour Students	<p>Nil</p> <p>Nil</p> <p>22 students in Entomology major subject</p> <p>Nil</p>
Service Activity	
Brief Statement of Research Interest	Biological control of insect pests
Publications	1. Published papers = 12

	2. Submitted for publication = 3
Research Grants and Contracts	Nil
Other Research or Creative Accomplishments	Establishment of Trichogramma chilonis rearing laboratory at Entomology Dept. Directorate General of Agriculture, Muzaffarabad, AJK Development of Pest Management system for Walnut Borer in Neelam and Jhelum Vallies Muzaffarabad AJK
Selected Professional Presentations	Pest Management of insect pests in Barani Areas. Natural resource Development with special focus on agriculture

RESUME OF DR. HUMAYUN JAVED

Name	Dr. Humayun Javed
Personal	House No. 376, opposite Raja CNG station, main kurree road Rawalpindi hjumayun@gmail.com Tel. 0333-5154954
Experience	1998 – To date Assistant Professor Department of Entomology Arid Agriculture University, Murree road, Rawalpindi 1987- 1998 Lecturer, Arid Agriculture University Rawalpindi
Honor and Awards	SCHOLARSHIPS AWARDED • First position in B.Sc. (Hons.) degree course
Membership	nil
Graduate Students supervised	26
Postdocs	Nil
Undergraduate Students	22 students in Entomology major subject
Service Activity	
Brief Statement of Research Interest	Host Plant Resistance IPM

Publications	1. Published papers = 6 2. Submitted for publication = 2
Research Grants and Contracts	Nil
Other Research or Creative Accomplishments	
Selected Professional Presentations	

RESUME OF MR. MUNIR AHMAD

Name	Dr. Munir Ahmad	
Personal	Department of Entomology, PMAS-Arid Agriculture University Rawalpindi Ph:03006361618 E.mail: munirahmad@uaar.edu.pk	
Experience	01.04.2010 to date	Working as a consultant for Insect Pest Management at Hydroponics Project of Farmers Marketing (Pvt) Ltd
	28/09/2011 to date	Assistant Professor, Department of Entomology, Pir Mehr Ali Shah, Arid Agriculture University Rawalpindi
	18.09.2008-27/09/2011	Lecturer, Department of Entomology, Pir Mehr Ali Shah, Arid Agriculture University Rawalpindi
	May 2008 to 15.09.2008	Scientific Officer, Central Cotton Research Institute, Old Shujabad Road, Multan under Project "Biological control of cotton insect pests of cotton in Pakistan"
	May 2004 – May 2008	(PhD Thesis) University College of Agriculture, Bahauddin Zakariya University, Multan.
	Sep 2002 – April 2004	Scientific Officer, Central Cotton Research Institute, Old Shujabad Road, Multan under CFC Project "Sustainable control of cotton bollworm, <i>Helicoverpa armigera</i> under small scale cotton production systems"
	Sep 2000 – Sep 2002	Technical Sales Officer, Helb Pesticide and Chemicals Co. Mall Plaza, Multan

	Cantonment, Multan Fieldwork for pesticides' sales and marketing
Honor and Awards	<p>SCHOLARSHIPS AWARDED</p> <ol style="list-style-type: none"> 1. International Research Support Initiative Program for PhD studies, Higher Education Commission, Government of Pakistan (Jan, 31st – July 04th, 2007). 2. Merit Scholarship under 200 Scholarship Scheme for PhD Studies, Ministry of Science and Technology, (Higher Education Commission) Government of Pakistan (September, May, 2004 – May 16, 2008) 3. Merit Scholarship for F. Sc studies by Board of Education, Multan, Pakistan (1991-1993)
Membership	<p>ASSOCIATION WITH SCIENTIFIC AND PROFESSIONAL ORGANIZATIONS</p> <ul style="list-style-type: none"> • Member of Pakistan Congress of Zoology • Member of Pakistan Entomological Society • Member of Pakistan University Teachers Forum • Member of Young Scientist Society, Pakistan
Graduate Students	Six (6)
Postdocs	Nil
Undergraduate Students	Nil
Honour Students	Nil
Service Activity	Responsible for department time table and date sheet Serving as consultant at FMP, University Hydroponics farm
Brief Statement of Research Interest	Insecticide resistance and Pollinators conservation
Publications	Published papers = Nine (9) international with more than 10 impact factor and above 100 citations Submitted for publication = 2 (two)
Research Grants and Contracts	Two
Other Research or Creative Accomplishments	Developed management strategy of insecticide resistance in leaf worm, <i>Spodoptera litura</i> in Punjab, Pakistan
Selected Professional Presentations	NA

RESUME OF DR. ASIF AZIZ

Name	Dr. Muhammad Asif Aziz
Personal	House No. 27, St. # 1, Bilal Colony, Dhok Kashmirian, Rawalpindi asifaziz572@gmail.com Tel. 0322-6862246
Experience	<p>Assistant Professor (Regular) in Department of Entomology in PMAS Arid Agriculture University Rawalpindi from 20-06-2012 to date.</p> <p>Assistant Professor (Adhoc) in Department of Entomology in PMAS Arid Agriculture University Rawalpindi from 31-05-2012 to 20-06-2012.</p> <p>Lecturer (Regular) in Department of Entomology in PMAS Arid Agriculture University Rawalpindi from 04-05-2012 to 30-05-2012.</p> <p>Lecturer (Contract) in Department of Entomology in PMAS Arid Agriculture University Rawalpindi from 12-07-2011 to 03-05-2012.</p> <p>Lecturer (Leave Vacancy) in Department of Entomology in PMAS Arid Agriculture University Rawalpindi from 26-01-2008 to 11-07-2011.</p>
Honor and Awards	SCHOLARSHIPS AWARDED <ul style="list-style-type: none"> • Benevolent Fund Scholarship during Higher Secondary School Certificate • University Merit Scholarship during B.Sc. (Hons.) degree course

	<ul style="list-style-type: none"> • UGC Merit Scholarship during M. Sc. (Hons.) degree
Membership	<p>ASSOCIATION WITH SCIENTIFIC AND PROFESSIONAL ORGANIZATIONS</p> <ul style="list-style-type: none"> • Member of Pakistan Congress of Zoology • Member of Pakistan Entomological Society
Graduate Students	8
Postdocs	Nil
Undergraduate Students	23 students in Entomology major subject
Honour Students	6
Research Grants and Contracts	1. PMAS-AAUR funded project entitled: "Exploration of pesticidal effect of different neem products for the management of wheat aphids
Publications (2010-12)	<ol style="list-style-type: none"> 1. Aziz, M. A., M. Hasan, A. Ali and J. Iqbal. 2012. Comparative efficacy of different strategies for management of spotted bollworms, <i>Earias</i> spp. On okra, <i>Abelmoschus esculentus</i> (L.) Moench. Pak. J. Zool. 44 (5)1203-1208. 2. S. Bushra, M. Aslam, M.A. Aziz and M. Ahmed. 2012. Grain damage, viability and weight loss in different barley cultivars due to <i>Sitotroga cerealella</i> (Oliv.) infestation, Archives Of Phytopathology And Plant Protection, DOI:10.1080/03235408.2012.736282 3. Hameed, A., M.A. Aziz, and G. M. Aheer. 2012. Impact of ecological conditions on biology of cotton mealy bug, <i>Phenacoccus solenopsis</i> (Hemiptera: Pseudococcidae) in laboratory. Pak. J. Zool. 44(3)685-690. 4. Aziz, M. A., M. Hasan, A. Ali, A. Suhail and S. T. Sahi. 2012. Role of different physico-chemical characters in host plant preference of <i>Earias</i> spp. on okra. Pak. J. Zool. 44(2): 361-369. 5. Saifullah, H. Javed and M. A. Aziz .2012. Role of physico-morphic characters of different okra genotypes in relation to population of <i>Amrasca biguttula biguttula</i> Ishida. J. Agric. Res. 50(2)217-224. 6. Javed, H. M. Younas and M. A. Aziz. 2012. Evaluation of different potato cultivars against potato tuber moth (<i>Phthorimaea operculella</i> Zeller). J. Agric. Biol. Sci. 3(1)45-49. 7. Aziz, M. A., M. Hasan, and A. Ali. 2011. Impact of

	<p>abiotic factors on incidence of fruit and shoot infestation of spotted bollworms <i>Earias</i> spp. on okra (<i>Abelmoschus esculentus</i> L.). Pak. J. Zool. 43(5): 863-868.</p> <p>8. Hameed, A., M.A. Aziz, and G. M. Aheer. 2010. Susceptibility of <i>Bemisia tabaci</i> Gen. (Diptera: Aleyrodidae) to selected Insecticides. Pak. J. Zool. 42(3):295-300.</p>
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RESUME OF DR. MUHAMMAD TARIQ

Name	Dr. Muhammad Tariq
Personal	House No. 163, St. # 20, Sector G-10/2, Islamabad mtariq@uair.edu.pk Tel. 0334-7471271
Experience	<p>October 18, 2011 – To date Assistant Professor Department of Entomology, PMAS-Arid Agriculture University Rawalpindi, Murree road, Rawalpindi</p> <p>October 18, 2006 - To October 17, 2011 Department of Entomology, PMAS-Arid Agriculture University Rawalpindi, Murree road, Rawalpindi</p>
Honor and Awards	
Membership	<p>ASSOCIATION WITH SCIENTIFIC AND PROFESSIONAL ORGANIZATIONS</p> <ul style="list-style-type: none"> • Royal Entomological Society • British Ecological Society
Graduate Students	Nil
Postdocs	Nil
Undergraduate Students	3 students in Entomology major subject
Honour Students	Nil
Service Activity	
Brief Statement of Research Interest	Insect Plant Interactions
Publications	<p>3. Published papers = 8</p> <p>4. Submitted for publication = 4</p>
Research Grants and Contracts	Nil
Other Research or Creative	Water stress, root herbivory and above-ground multitrophic interactions in a crucifer-aphid system

Accomplishments	
Selected Professional Presentations	<ul style="list-style-type: none"> • Drought alters interactions between root and foliar herbivores: links with the plant chemistry flash presentation in 12th European Ecological Federation Congress, Avila, Spain, September 25-29, 2011. • “Drought modifies multitrophic interactions above and below ground” poster presentation in Ento 2010 The Royal Entomological Society Annual National Science meeting, Swansea University, UK, 26-28 July 2010. • “Aphids in a changing world: testing the plant stress, plant vigour and pulsed stress hypotheses” oral presentation in Ento 2010 The Royal Entomological Society Annual National Science meeting, Swansea University, UK, 26-28 July 2010. • “Drought modifies tritrophic interactions above and below ground” poster presentation in Graduate School of Life Science & Medicine Summer Research Symposium at South Kensington Campus, Imperial College London, UK, 9 July 2010. • “Aphids in a changing world: testing the plant stress, plant vigour and pulsed stress hypotheses” oral presentation in BioResources Young Researchers 2010 at University of Reading, UK organized by Society of Chemical Industry’s BioResources Group, 30 June 2010.

RESUME OF DR. ASIM GULZAR

Name	Dr. Asim Gulzar
Personal	House No. 3b University colony No 3.Hostel road Rawalpindi asim@uair.edu.pk Tel. 0331-5444283

Experience	<p>October, 2011 – To date Assistant Professor Department of Entomology Arid Agriculture University, Murree road, Rawalpindi</p> <p>December, 2004-October 2011 Assistant Director Research/ Lecturer, Arid Agriculture University Rawalpindi</p> <p>August, 2004-December 2004 Research associate, Agriculture University Faisalabad</p> <p>March, 2004-August 2004 Cotton Inspector, Punjab agriculture Department</p> <p>October, 2002 – March 2004 Technical Sales officer, Syngenta Pakistan</p>
Honor and Awards	<p>SCHOLARSHIPS AWARDED</p> <ul style="list-style-type: none"> • University Merit Scholarship during B.Sc. (Hons.) degree course • Higher Education foreign scholarship for Ph.D.
Membership	<p>ASSOCIATION WITH SCIENTIFIC AND PROFESSIONAL ORGANIZATIONS</p> <ul style="list-style-type: none"> • Member of Royal Entomological Society London
Graduate Students supervised Postdocs Undergraduate Students	<p>1 Nil 22 students in Entomology major subject</p>
Service Activity	
Brief Statement of Research Interest	<p>Insecticide resistance, Insect Toxicology Biological control of insect pests</p>
Publications	<p>5. Published papers = 2 6. Submitted for publication = 5</p>
Research Grants and Contracts	<p>Nil</p>

Other Research or Creative Accomplishments	
Selected Professional Presentations	

RESUME OF DR. IMRAN BODLAH

Name	IMRAN BODLAH
Personal	District Layyah, wariach garden near police line, 03228758287
Experience	MAY, 2011 Assistant professor upto date April, 2008, Lecturer, Department of Entomology-PMAS-AAUR October 2004, Water Management Officer, Own farm water management district Muzafar Garh.
Honor and Awards	Teachings assistantship scholarship during PhD
Membership	Botanical Societ of Pakistan
Graduate Students Postdocs Undergraduate Students	13
Honour Students	1
Service Activity	Teaching classes to B.Sc (Hons) and M.Sc. (Hons)
Brief Statement of Research Interest	Biosystematics of Aphids ,aphid parasitoids and hyperparasitoids and their Biology
Publications	<p>Bodlah, I., M. Ahmad, M. F. Nasir and M. Naeem. 2010. Record of <i>Aenasius bambawale</i> Hayat, 2009 (Hymenoptera: Encyrtidae) from Punjab, Pakistan. <i>Pakistan J. Zool.</i> 42(5). 533-536.</p> <p>E. Rakhshani, H. Barahoei, Z. Ahmed, Ž. Tomanović, M.</p> <p>Janković, A. Petrović, P. Starý and I. Bodlah. 2012. New species and additional evidence of aphid parasitoid (Hymenoptera: Braconidae: Aphidiinae) from India. <i>Zootaxa</i>. 3397. 45-54.</p> <p>E, Rakhshani, S. Kazemzadeh, P. Starý, H. Barahoei, N. G. Kavallieratos, A. Četković, I. Bodlah and Ž. Tomanović. 2012. Parasitoids (Hymenoptera: Braconidae: Aphidiinae) of northeastern Iran: Aphidiine-aphid- plant associations, key and description of a</p>

	<p>new species. Journal of Insect Science. Vol. 12 (143).1-26.</p> <p>I, A Khan, M. Naeem, S. A Hassan, H. Bilal, Ata-ul- Mohsin and I. Bodlah. 2012 .Survey of trophic relationship between aphid and their primary parasitoids in Potohar. J. Insect Scie.12.78.1-9.</p> <p>Bodlah, I.M. Naeem and E. Rakhshani.2011. First record of <i>Binodoxys basicurvus</i> Shujauddin, 1973 (Hymenoptera: Braconidae, Aphidiinae) from the Punjab Province of Pakistan. Pakistan J. Zool., vol. 43(1), 202-205.</p> <p>Bodlah, I, M. A. Bodlah, T. Akhtar, M. Naeem and M. R. Khan .2011. Record of <i>Delta dimidiatipenne</i> (Saussure, 1852) (Hymenoptera: Vespidae: Eumeninae) From Barani Areas of Punjab Province of Pakistan. Pakistan J. Zool., vol. 43(5).1019-1020.</p> <p>Bodlah, I.M. Naeem and E. Rakhshani . 2012.Genus <i>Binodoxys</i> Mackauer, 1960 (Hymenoptera: Braconidae, Aphidiinae) from Punjab Province of Pakistan. Pakistan J. Zool. 44 (2): 551-57.</p> <p>Bodlah, I. M. Naeem and A. Mohsin. 2012. Distribution, Hosts and Biology of <i>Diaeretiella rapae</i> (M’Intosh) (Hymenoptera: Braconidae: Aphidiinae) in Punjab, Pakistan. P. J. Zoology. 44(5)1307-1315.</p> <p>Arif shah, Ata Ul Mohsin, I. Bodlah and Muhammad Naeem.2012. Dubas Bug, <i>Ommatissus lybicus</i> (Tropiduchidae: Hemiptera) - A new record from Panjgur, Balochistan, Pakistan. Pakistan J. Zool., vol. 44(6).1765-1769.</p> <p>Bodlah, I. M. Naeem and E. Rakhshani .2012 .Record of Genus <i>Proan</i> Haliday (Hymenopter, Braconidae, Aphidiinae) from Arid Tract of Punjab Province of Pakistan .The Journal of Animal and Plant Sciences.22 (4) - 944.947.</p> <p>Bodlah, I. M. Naeem, M. R. Khan,M. A. Bodlah and T. A. Akhter. 2012.Genus <i>Delta</i> de saussure (Hymenoptera: Eumininae, Vespidae) from Punjab province of Pakistan. P. J. Zoology.44 (33) .759-764.</p> <p>I. Bodlah, M. A. Bodlah, M. Naeem, T. Akhter, M. F. Nasir and M.T.Chaudhry .2012. First record, distribution and biology of Psyllid, <i>Trioza flecheri</i> minor Crawford, 1912 from Punjab Province. Pak. J. Zool. 44(5), 1361-1365.</p>
Research Grants and Contracts	N/A
Other Research or Creative Accomplishments	Three species of Aphid parasitoids
Selected Professional Presentations	N/A

CRITERION 7: INSTITUTIONAL FACILITIES

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

The faculty has access to e-library which is very helpful for the high quality education and producing research of international standard. They also have access to the internet. However the department lacks facilities as mentioned below:

- A number of faculty members do not have access to the PCs as department have only three Computers provided by the university.
- No registered softwares of computer programmes are available to be installed at departmental level.
- Registered versions of Microsoft Windows, Office XP, Adobe reader, writer are required.
- A printer with in built scanner and fax facility is urgently needed by the department.

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 University Central Library has very limited number of books, journals and periodicals. It's a small library in term of space and facilities with no catalogue systems. It does not meet the standards of a University Library. Department itself is developing its own library. It needs funds allocation to establish a well equipped library at departmental level.

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

Currently the class rooms are not enough and the space is not only limited but some basic facilities are lacking. Multimedia are not available for the lecture halls. Practical lab space is also not meeting the needs which affects the quality of teaching. Although at present offices for the faculty are sufficient, yet on the return of the remaining faculty, we will face severe problem regarding shortages of offices for the staff.

CRITERION 8: INSTITUTIONAL SUPPORT

Administration of the PMAS-Arid Agriculture University Rawalpindi has been striving to strengthen all the departments and up-gradation of departments and establishing new Faculties and Institutes. The university is also trying to attract highly qualified faculty members. Currently, the university has launched tenure track system which would be helpful in pooling up better human recourses as faculty members.

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 teachers and scholars

In the present situation, the department of Entomology is having inadequate financial resource to meet the present needs for a better education system. Individual research grants for students and faculty are mainly supporting the departmental research activities. Keeping in view the awful need for increasing the financial resources to establish a library, laboratories and computer facilities, The HEC has approved a project for strengthening the department. This project will prove beneficial in improving the quality of education and research.

Standard 8-2: There must be an adequate number of high quality Ph.D. students.

Ph.D. admission is usually offered in each semester.

RESEARCH STUDENTS REVIEW

For this purpose the Proforma 4 was used to conduct survey to review the progress of Ph.D scholars. General inferences are drawn hereunder.

- A big Majority of the scholars were found satisfied with the level of supervision maintained at department.
- Post-graduates of the department had access to the available sophisticated equipments through a well managgemed/operative system.
- The post-graduates have access to scientific literature through central laboratory.
- A small number of the respondents have requested for the provision of computers or their research work.
- A few respondents were of the view that equipments relating molecular and biochemical techniques should be made available in the department to carry out biochemical analysis of cereals, toxicological study of insecticides and biosystematics of the insect pests. .

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

To the maximum extent, administration provides adequate financial resources, yet there is need to increase budget to carry out research at Masters Level.

