PIR MEHR ALI SHAH

ARID AGRICULTURE UNIVERSITY

RAWALPINDI

SELF ASSESSMENT REPORT 2014-2016

B.SC (HONS) AGRICULTURAL ENGINEERING

FACULTY OF AGRICULTURAL ENGINEERING & TECHNOLOGY

Program Team

Engr. Asim Gulzar	(Coordinator)
Engr. Muhammad Akhlaq	(Member)
Engr. Fiaz Hussain	(Member)

TABLE OF CONTENTS

INTRODUCTION

The Faculty of Agricultural Engineering & Technology applies the principles of Engineering Science and Technology for enhancement of Agricultural production and advancement of Food processing technologies & Agricultural products. The faculty of Agricultural Engineering and Technology was established at Pir Mehr Ali Shah Arid Agriculture University in 2013. The faculty is offering Ph.D, MSc. (Hons) and B.Sc Agricultural Engineering programs with majors in following disciplines

i. Land & Water Conservation Engineering
ii. Farm Machinery and Precision Engineering
iii. Structure and Environmental Engineering
iv. Energy System Engineering
v. Horticultural Engineering
vi. Food Engineering
vii. Geo informatics

These degree Programs focus on the fundamental engineering courses as approved by the Higher Education Commission (HEC) with emphasis on Modern Mechanized Agriculture, associated issues and their solutions. All of the majors of Agricultural Engineering will be offered by the departments from (i) to (vi) above. All these departments have been designated as separate departments with their core laboratories, core courses and other facilities of staffing and infrastructure. Each department has been assigned a distinctive mission of its own. Apart from six engineering departments, Geo-informatics has been initiated as a separate department this has been done in view of the expanding dimension of agricultural engineering internationally and engagement of engineering professional in imaginary analysis and related software.

The objective of B.Sc (Hons) Agricultural Engineering program by Faculty of Agricultural Engineering and Technology is to produce and train Agri. Engineers with sound engineering knowledge and analytical skill to solve the problems of Pothwar Agriculture. The program is conceptualized and designed to produce students with the highest level of training, who are expected to contribute towards the goal of realizing the full potential of professionals in Agricultural Engineering and solving the problems in agriculture to attain maximum yield with minimum inputs.

CRITERION-1

PROGRAMME MISSION, OBJECTIVES AND OUTCOMES

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

VISION STATEMENT:

The Faculty of Agricultural Engineering & Technology was established in Pothwar region to educate and impart train for adoption and promotion of mechanization, efficient utilization of water & energy sources at farm and value addition of farm products.

The Faculty of Agricultural Engineering and Technology would like to be recognized nationally and world over as a high seminary of learning pertinent to water and environment management, farm mechanization, agro-processing, bio-energy systems engineering in the 21st century. The faculty is serving to bridge the gap between the researchers and farmers. The professionals (teachers/researchers) aimed to excel imparting education and training pertaining to water resources management and utilizing the water resources of the country in an efficient manner.

Faculty plans to impart professional education, training and produce skilled manpower at graduate and postgraduate level in the field of Agricultural Engineering, with special focus on resolving issues faced by the farming community. Faculty plans to improve communication skills of engineers through subject, project and thesis presentations, seminars and class discussions.

Faculty professionals are working hard to develop and maintain collaboration with other national and international institutions associated with Agricultural and Biological Engineering. A close interaction is being created with different government and private organizations.

The Faculty of Agricultural Engineering and Technology has actively arranged national and international conferences and seminars to share knowledge among the professional of various countries and departments. This activity will be excelled in the future and more national and international seminars/conferences/workshops will be arranged. Outreach programs will be conducted for technology transfer to the farmers in collaboration with the private industry for promoting new technologies developed in the faculty.

MISSION STATEMENT:

The Faculty of Agricultural Engineering & Technology was established at PMAS-AAUR in 2013 to strengthen the academic programs of the university and to cater the future needs of the trained manpower in the field of agricultural engineering specialized in farm machinery & precision engineering, land & water conservation engineering, horticulture engineering, food engineering and energy engineering. The faculty also aims to research, develop, implement the advance and innovative methods, material and the technologies for regional and national interest specially in the field of agriculture. The faculty is ready to serve the nation by providing trained manpower to plan and execute the public and private sectors projects pertaining to environment such as farm waste processing, water quality management, improved farm structures.

OBJECTIVES;

1. To impart sound knowledge and training in the field of Agricultural Engineering to produce educated and skilled graduates with technical knowledge and skills required for the design, operation, maintenance and evaluation of irrigation, power and mechanical systems used in the industry and on agricultural farms.
2. To enable the students for using engineering equipments for water and land conservation, on farm machinery and on site data collection, analysis and problem solving techniques in the laboratory and field.
3. To equip students with mathematical, experimental, computational, oral and written communication skills as well as to work effectively in a team environment.
4. To establish linkage between agricultural industry and academia through research and development
5. To impart training for managing and establishing agricultural engineering enterprises.

Main elements of strategic plan to achieve mission and objective;

- Development of a sound teaching/training system based on the experience and vision needed to provide a quality education
- Development of infrastructures facilities.
- Designing of curricula involving core subjects, elective subjects, specialized areas, internship programs and study tours.
- Training of the students how to apply engineering principles to agricultural mechanization, crop production, preservation and storage, farm and agricultural business management, irrigation, farm structures and rural electrification.
- Promote awareness of the importance of agricultural engineering disciplines in the economy.
- Establishment of computer lab with internet facility.
- Establishment of well-equipped specialized laboratories for the students and researchers.
- Publication of scientific papers, articles, books, manuals etc.
- Execution of research of research projects funded by the Universities and other agencies.
- Arranging field tours to realize the problems more significantly faced by the farmers related to agricultural engineering discipline.
- Manage or establish agricultural engineering enterprises.
- Integrate agricultural engineering activities within the farming enterprises.
- Promote environmental conservation by effecting sound practices and policies.
- Pursue careers in agricultural engineering and related disciplines.

Table 1: Program objectives assessment

Sr. #	Objectives	How measured	When measured	Improvement identified	Improvement made
1	To impart sound knowledge and training in the field of Agricultural Engineering to produce educated and skilled graduates.	Through examinations and students feedback	During and at the end of the semester	NA	NA
2	To enable the students for using engineering equipments for water and land conservation, on farm machinery and on site data collection, analysis and problem solving techniques in the laboratory and field.	Through Practical Exams, Internship, and Projects, Special assignments	During and at the end of the semester	NA	NA
3	To equip students with oral and written communication skills as well as to work effectively in a team environment.	Assigning group task, assignments and presentations	During and at the end of the semester	NA	NA
4	To establish linkage between agricultural industry and academia through research and development	Through MoU, research collaboration	Continuous process As per requirement	NA	NA
5	To impart training for managing and establishing agricultural engineering enterprises.	Projects and Reports, Internship	In the last year of degree program	NA	NA

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

PROGRAM LEARNING OUTCOMES

1. Knowledge and Understanding:

Under knowledge and understanding domain, the program aims to create awareness among the students and related community about the significance and scope of Agricultural Engineering. After completing their degree program, the students in Agricultural Engineering should possess the ability of:

1. Sound knowledge and understanding about their field of study
2. How to apply knowledge of agricultural engineering to solve problems
3. Design and conduct experiments, as well as to analyze and interpret data
4. Understand professional and ethical responsibility
5. Communication skills through presentations, oral discussions, review
6. Scientific writing and publication of research papers articles, etc.
7. Managing or establishing agricultural engineering enterprises.

2. Intellectual skills:

The program also has the ambition to develop strong intellectual skills among the graduates and require the students to.

1. Become agricultural engineer specialist with management and decision making skills;
2. Make informed and critical judgments when faced with an issue concerning agricultural engineering field and industry;
3. Appreciate and understand the analytical analysis requiredfor projects;
4. Analyze, synthesis and summarize information requirement for a project;
5. Apply knowledge and understanding to address a wide range of issues; and
6. Recognize the moral and ethical, as well as scientific issues that relate to food, water and energy and address these issues in context with current policies and strategies.

3. Subject Practical skills:

The program specification requires students to:

1. have gained a practical knowledge of the range of techniques and strategies related to management in the field of agricultural engineering;
2. be able to understand the complexity of problems and their relationships;
3. be able to perform analytical and theoretical analysis on a varied range data;
4. be able to quantitatively assess the quality of acquired research data;
5. be able to design, develop and evaluate methodologies and develop critics of them, and where appropriate, propose new techniques for research.

4. Transferable/ key skills:

The BSc. Agricultural Engineering program requires students to demonstrate an understanding and knowledge in the following transferable and key skill areas:

1. Communication skills
2. Interpersonal and teamwork skills
3. Numeracy and IT skills
4. Self-management and professional development skills

Table 2: Program Objectives versus Program Outcomes

PROGRAM OBJECTIVES	PROGRAM OUTCOMES			
	Knowledge and Understanding	**Intellectual Skills**	**Subject Practical Skills**	**Transferrable/Key Skills**
To impart sound knowledge and training in the field of Agricultural Engineering to produce educated and skilled graduates.	✓	✓	✓	
To enable the students for using engineering equipments for water and land conservation, on farm machinery and on site data collection, analysis and problem solving techniques in the		✓	✓	✓

laboratory and field.				
To equip students with oral and written communication skills as well as to work effectively in a team environment.				✓
To establish linkage between agricultural industry and academia through research and development	✓	✓	✓	✓
To impart training for managing and establishing agricultural engineering enterprises	✓	✓	✓	✓

Learning and Teaching/Knowledge and Understanding

Highly qualified professionals provide excellent technical and conceptual guidance to the students to produce highly organized and motivated individuals. Seminars and workshops are organized to invite external speakers to provide additional lectures. The courses taught to BSc scholars are in accordance with the international education standards. The program uses a variety of teaching and learning approaches with a strong emphasis on student centered learning including: lectures, classroom based and computer lab based practical exercises, field based learning, seminars, tutorials, workshops, extra-curricular activities, guided independent study and the independent research project. Teaching and learning strategies are linked to the learning outcomes of the respective courses and individual sessions.

Learning and Teaching/Intellectual Skills

Intellectual skills are introduced, developed and tested in the formal taught sessions. Major introductory and deep courses expose students to current policies and management strategies, testing their awareness of such using evaluative essays. Applied courses provide students with

the opportunity to reflect on the interrelationship of knowledge between academic work and real world projects; and offer students exposure to research methodologies and their application in field of agricultural engineering. The final Research Project is regarded as the culmination of the development of intellectual skills at bachelor's level.

Learning and Teaching/Subject Practical Skills

This program contains a balance of theoretical and practical skills appropriate for agricultural engineers. Practical skills are included in all core courses with the emphasis on the application of subject knowledge, methods, techniques, and approaches to real world situations.

The theoretical and practical skills gained in the laboratories are put into effect during the field-based exercises.

Learning and Teaching/Transferrable/Key Skills

As indicated above a variety of teaching and learning strategies are used, which are designed to facilitate the development of graduate level communication, numeracy, IT, interpersonal and self-management and development skills. The introduction, development and testing of generic graduate key skills is embedded in the program teaching and learning strategy.

Assessment Methods/Knowledge and Understanding

Assessments are designed to test the learning outcomes of the course. Students are informed of the assessment requirements in the program handbook and in the first lecture of each course. A wide variety of assessments are used, the emphasis is on assessments related to real world situations and approaches, and these include technical reports, critical and evaluative essays, journal papers, poster presentations, field notebooks and research proposals, semester and final projects. All courses use a combination of theory examinations, practical examinations.

Assessment Methods/Intellectual Skills

Assessments are designed to test students' bachelor's level intellectual skills, with a strong emphasis on demonstrating intellectual and critical understanding as well as subject knowledge. The assessments include critical and evaluative engineering problem identification, journal papers, project proposals and project reports and final year project.

Assessment Methods/Subject Practical Skills

Most assessments test some subject practical skills, depending on the learning outcomes. Assessments include understanding and theoretical designing of machinery and its parts, numerical and computer modeling techniques and engineering software understanding and usage, multi criteria evaluation assignments and projects.

Assessment Methods/Transferrable/Key Skills

A variety of assessment strategies are used across the program, including the following:

Communication skills

- Journal paper, essays, posters and other text based reviews.
- Oral presentations
- A mixture of technical and non-technical reports.

Interpersonal and teamwork skills

- group based fieldwork
- group based mini research project
- group presentations

Numeracy and IT skills

- Collection and analysis of primary, secondary, temporal and spatial data
- Use of a varied range of computer modeling software and Programming
- Reports including statistics, geo-statistics
- Database management, design and implementation

Self-management and professional development skills

- Interaction and discussion with industry experts
- The final research project is particularly important in the development of professional management skills.

PROGRAM ASSESSMENT RESULTS (Proformae 1 & 10)

Following are the faculty members who taught B.Sc (Hons) Agricultural Engineering program;

Sr. #	Faculty	Designation	Qualification
1	Prof. Dr. Muhammad Yasin	Faculty Incharge	Ph. D. University of Nebraska, USA
2	Dr. Muhammad Umair	Assistant Professor	Ph.D.Tokyo University of Agriculture & Tech., Japan
3	Engr. Asim Gulzar		M.Sc. (Hons.) UET Texila
4	Engr. Tahir Iqbal	Lecturer	M.Sc. (Hons.) Agri. Engg. UAF.
5	Engr. Muhammad Usman		M.Sc. Water Recourses, Lahore
6	Engr. Muhammad Akhlaq		M.Sc. (Hons.) Agri. Engg. UAF.
7	Engr. Zia-ul-Haq		M.Sc. (Hons.) Agri. Engg. UAF.
8	Engr. Zahoor Ahmed	Assistant Executive Engineer/ Lab. Engineer	B.Sc Engineering, MUET, Jamshoro
9	Engr. Shahzad Noor		M.Sc (Hons.) Agri. Engg. PMAS-UAAR
10	Engr. Muhammad Tariq		M.Sc (Hons.) Agri. Engg. PMAS-UAAR
11	Engr. Syed Mudassar Raza		B.Sc (Hons.) Agri. Engg. PMAS-UAAR
12	Engr. Fiaz Hussain		M.Sc. Water Recourses Engg, CEWRE UET Lahore

These faculty members are involved in teaching different subjects and by providing guidance to their study projects and assignments. These teachers were evaluated by the students at the end of each semester before the final exams according to the Performa 10 and the subject was evaluated according to Performa 1.

The evaluation of courses taught by different teachers in different semester and teacher evaluation by students are given below;

Spring-14			
Course no.	**Credit hour**	**Title**	**Teacher**
B.Sc Agri. Engg. 2nd semester			
FSEE 302	2(1-1)	Computer Aided Design	Engr. M. Usman
FSEE 306	3 (2–1)	Engineering Mechanics	Prof. Dr. J.k Sial
FMPE 302	3 (2–1)	Manufacturing Engineering	Engr. Tahir Iqbal

SS 302	3 (2–1)	Soil Science	Mr. Tanveer Iqbal
SSH 302	2 (2–0)	Pakistan Studies	Ms. Salma Shujeeb
AGRO 302	3 (2–1)	Basic Agriculture	Dr. Naveed Tahir

PROF. DR. J. K. Sial

Course: Engineering Mechanics

PERFORMA-1 (Section-A)

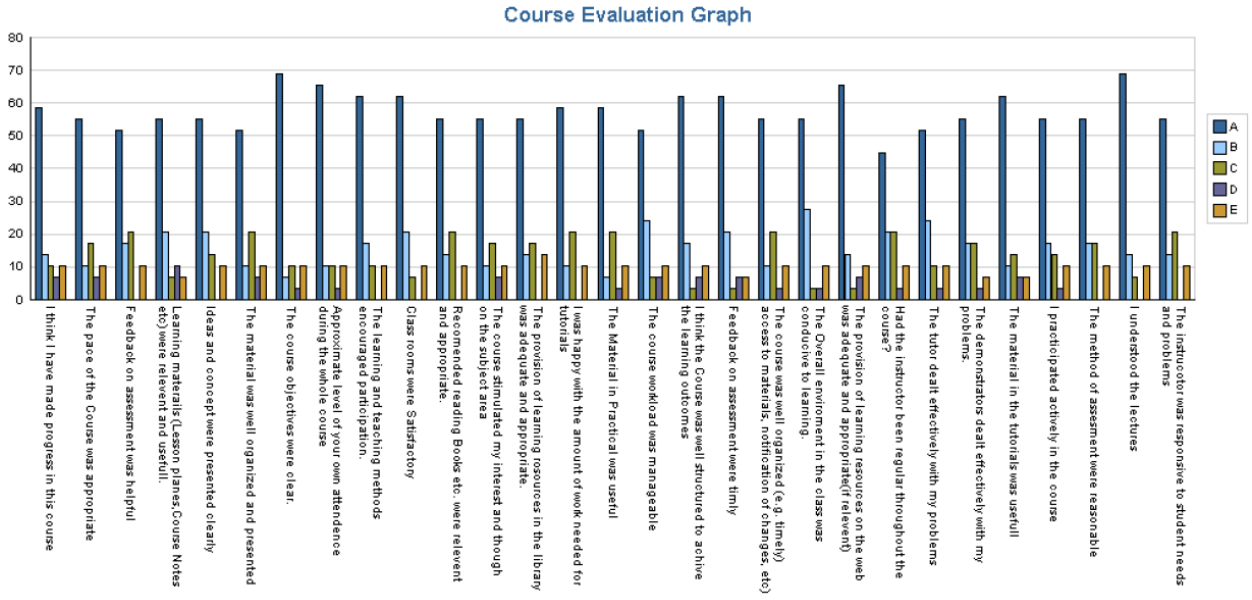

Fig: Course evaluation (Section-A) Engineering Mechanics, Spring-14

PERFORMA-1 (Section-B)

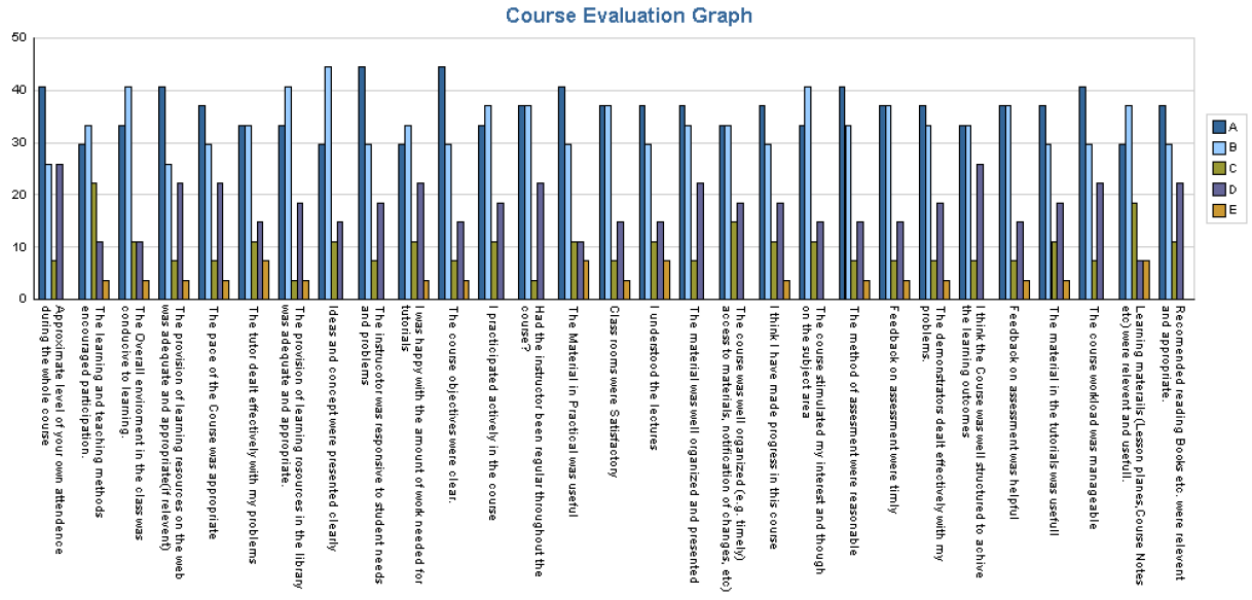

Fig: Course evaluation (Section-B) Engineering Mechanics, Spring-14

General Comments

Engineering mechanics is basic and very important subject in engineering. Because the course is difficult therefore some students find it difficult to understand.

PERFORMA-10 (Section-A)

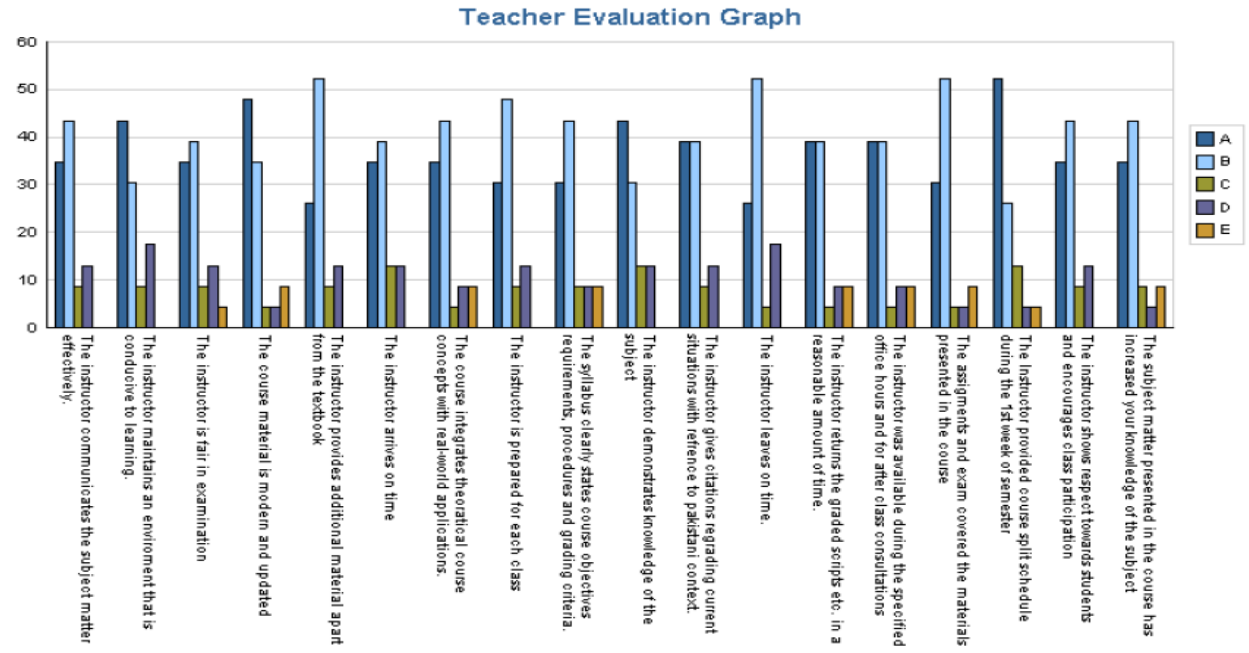

Fig: Teacher evaluation (Section-A) Engineering Mechanics, Spring-14

PERFORMA-10 (Section-B)

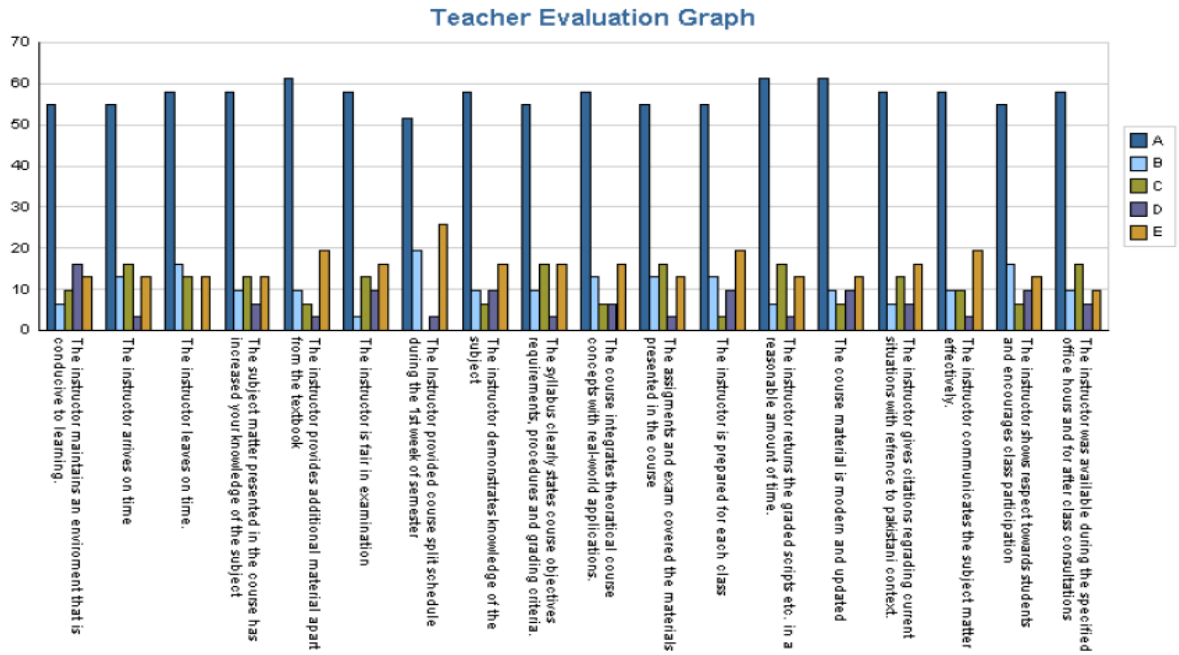

Fig: Teacher evaluation (Section-B) Engineering Mechanics, Spring-14

Comments

According to student's feedback teacher remained prepared, regular in the class and showed respect for the students. Moreover teacher was available all the time for guidance and marks the papers without any biasness.

ENGR. MUHAMMAD USMAN

Course: Computer Aided Design

PERFORMA-1 (Section-A)

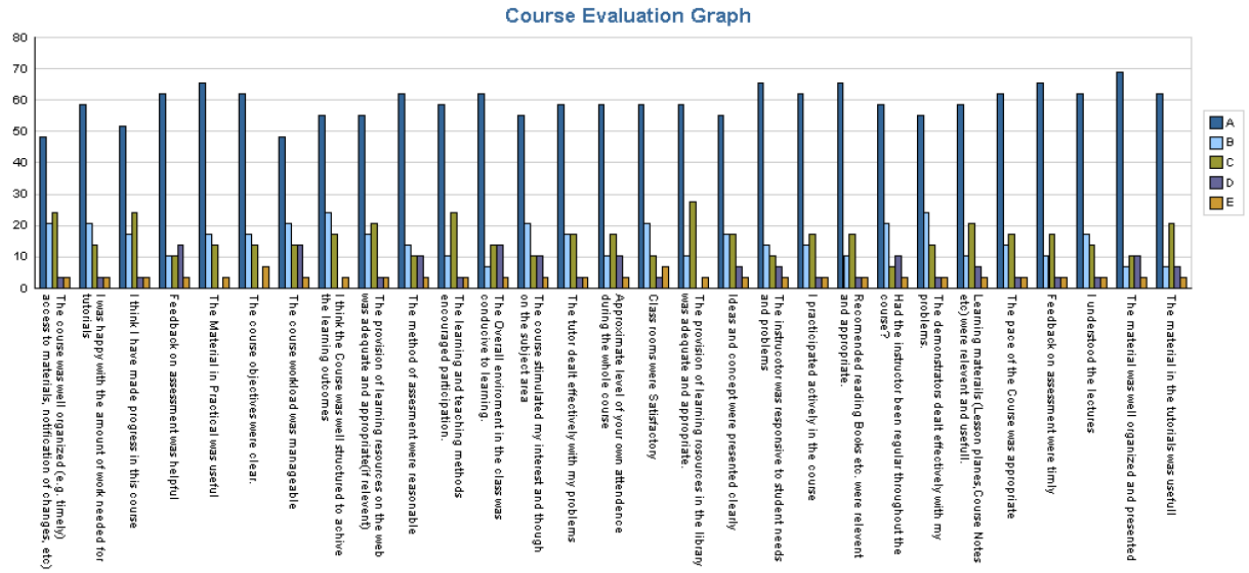

Fig: Course evaluation (Section-A) Computer Aided Design, Spring-14

PERFORMA-1 (Section-B)

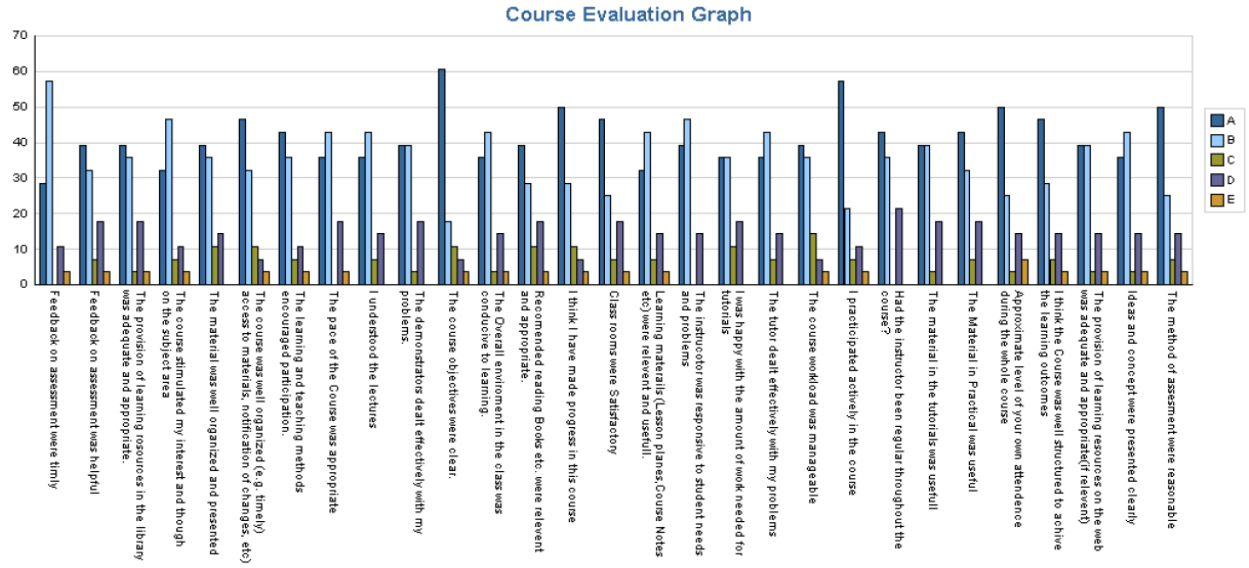

Fig: Course evaluation (Section-B) Computer Aided Design, Spring-14

Comments

The course was interesting and provides the basic knowledge of engineering drawing. Because it uses the computer program, therefore, the students who were used to computer programs feel little bit difficulty.

PERFORMA-10 (Section-A)

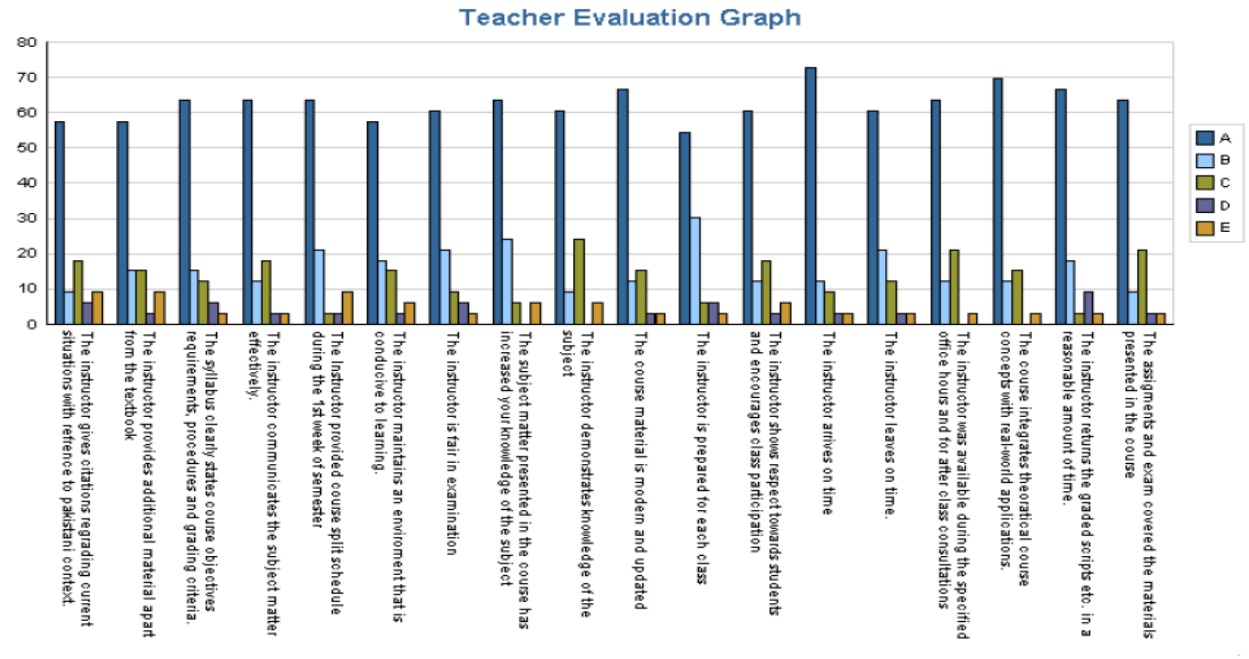

Fig: Teacher evaluation (Section-A) Computer Aided Design, Spring-14

PERFORMA-10 (Section-B)

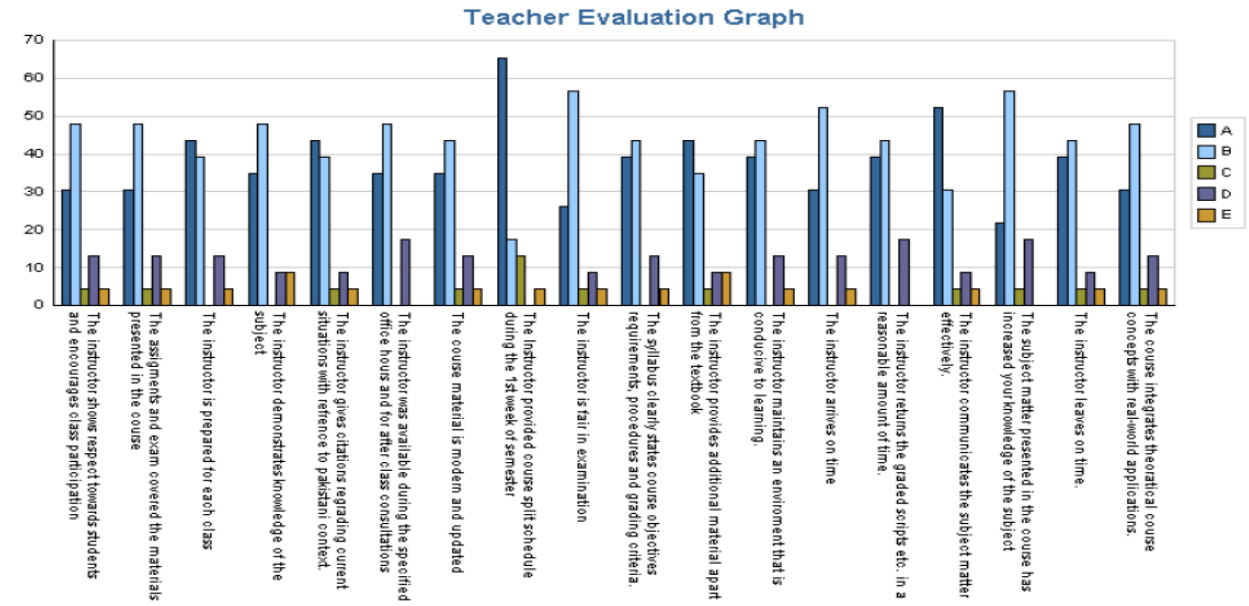

Fig: Teacher evaluation (Section-B) Computer Aided Design, Spring-14

Comments

According to student's feedback teacher remained prepared, provide the split schedule on time and come on time.

ENGR. TAHIR IQBAL

Course: Manufacturing Engineering

PERFORMA-1 (Section-A)

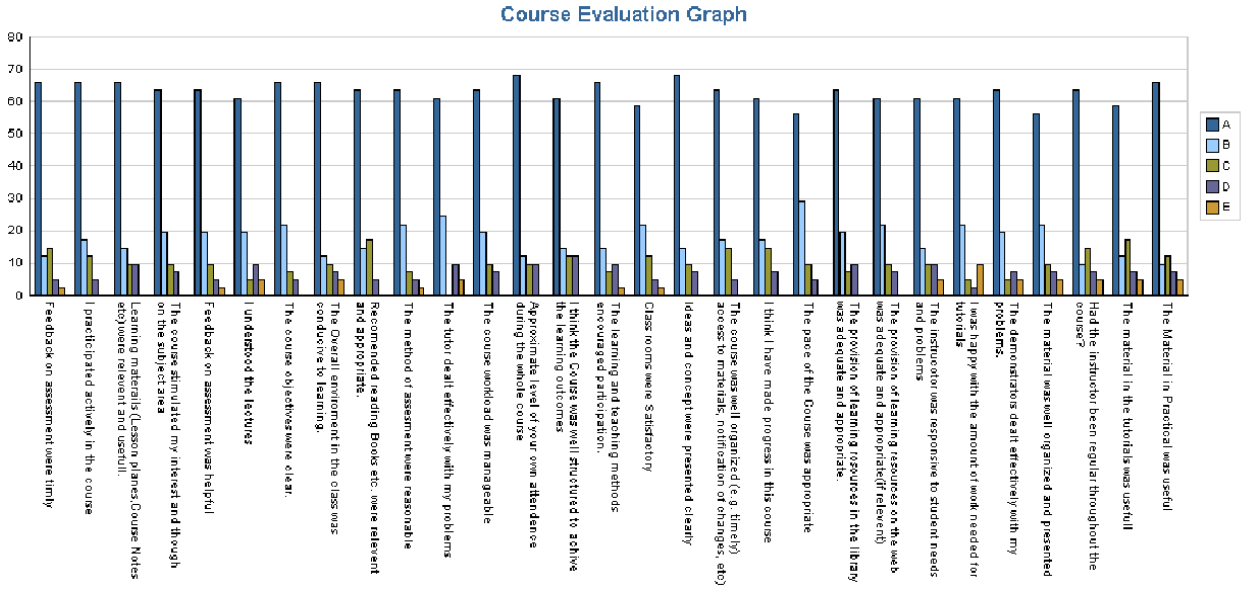

Fig: Course evaluation (Section-A) Manufacturing Engineering, Spring-14

PERFORMA-1 (Section-B)

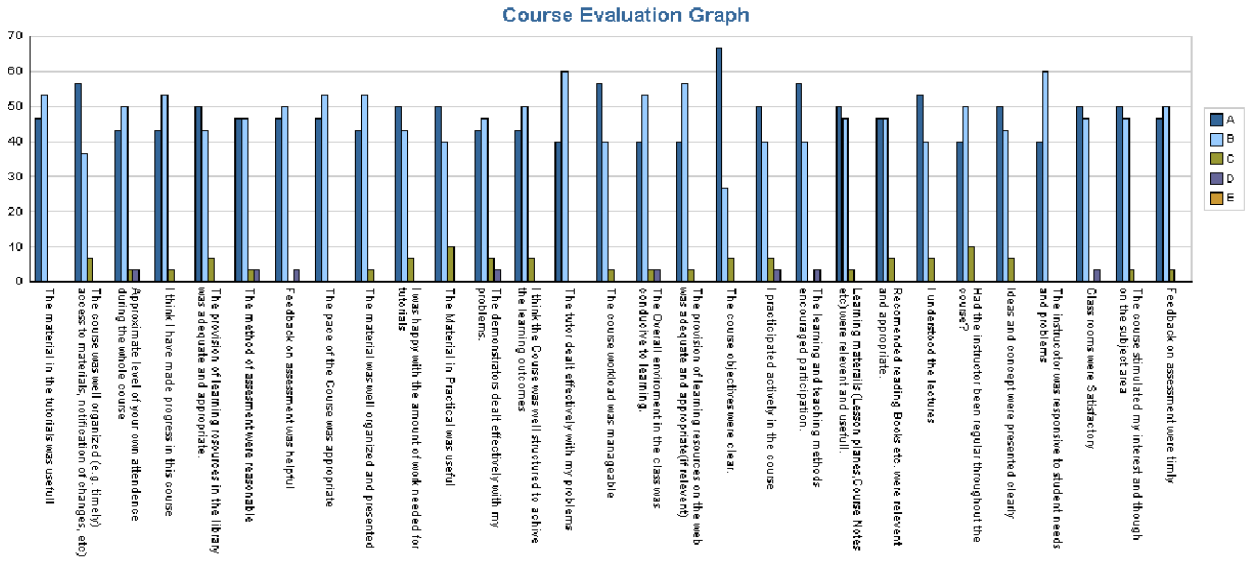

Fig: Course evaluation (Section-B) Manufacturing Engineering, Spring-14

Comments

The course was very importing regarding mechanize farming. The instructor has great experience in this field and he taught this course very effectively.

PERFORMA-10 (Section-A)

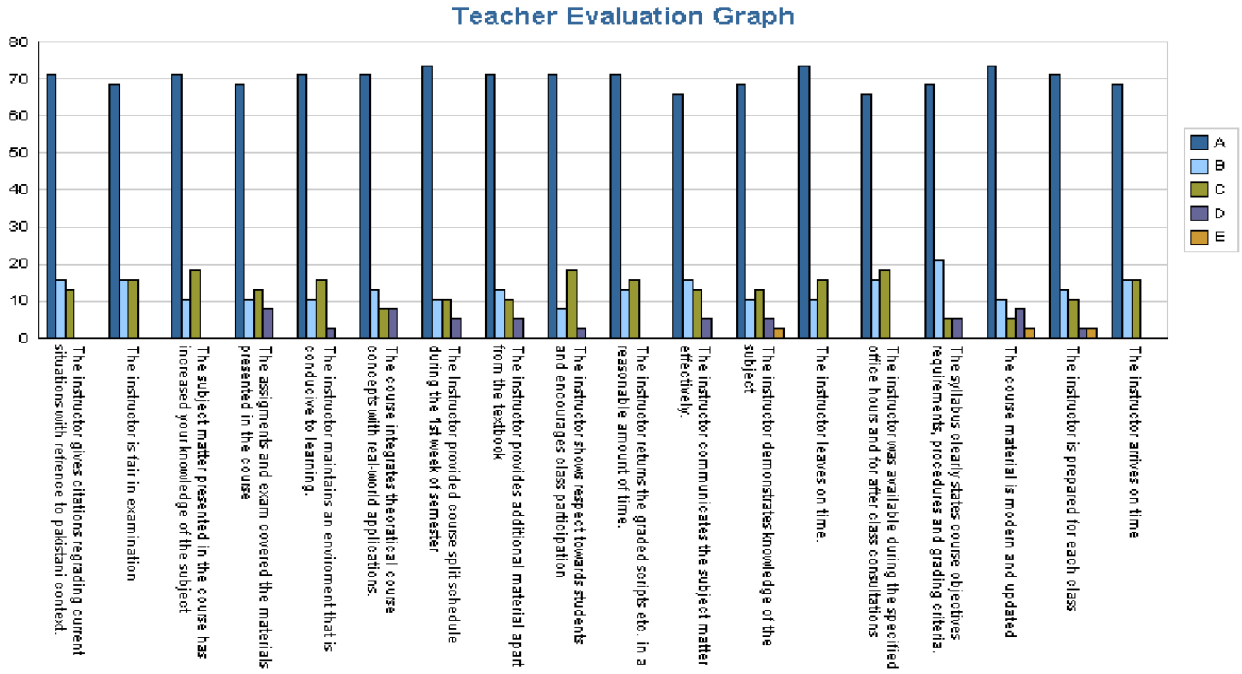

Fig: Teacher evaluation (Section-A) Manufacturing Engineering, Spring-14

PERFORMA-10 (Section-B)

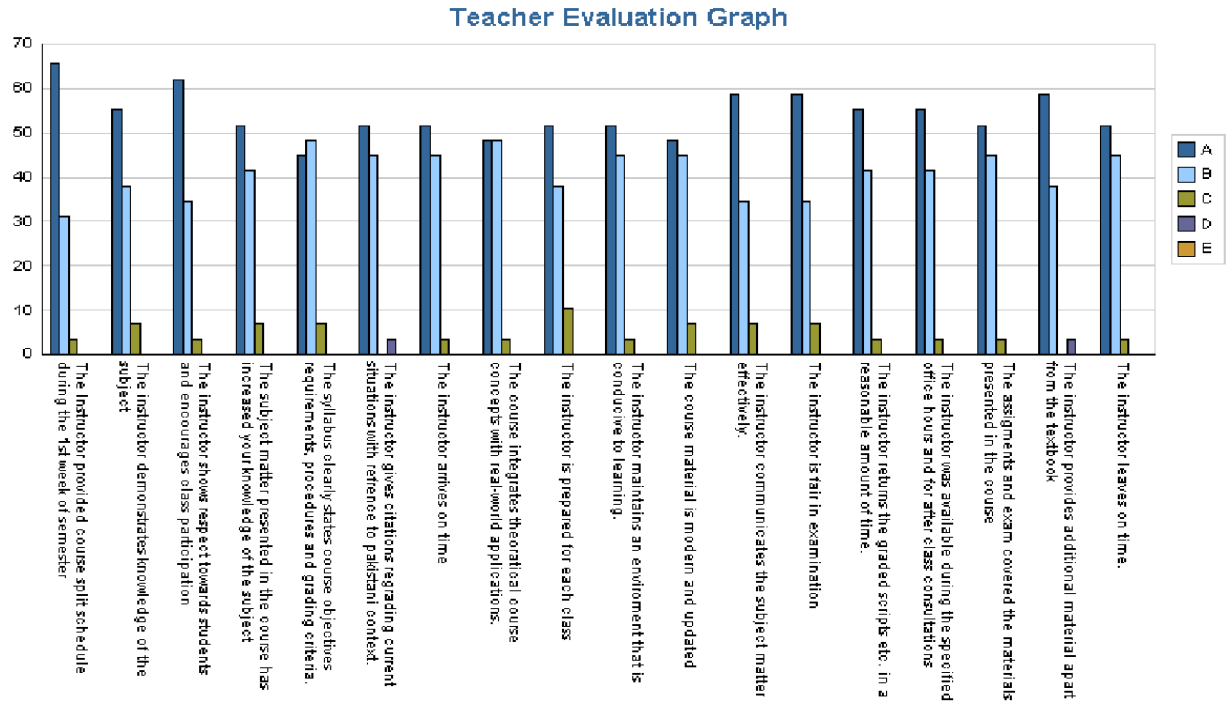

Fig: Teacher evaluation (Section-B) Manufacturing Engineering, Spring-14

Comments
According to student's feedback teacher remained prepared, provide the split schedule on time and come on time.

Fall-14			
Course no.	**Credit hour**	**Title**	**Teacher**
B.Sc Agri. Engg. 1st semester			
LWCE 301	3(2 – 1)	Fluid Mechanics	Dr. J. K. Sial
FSEE 301	2(1 – 1)	Engineering Drawing & Graphics	Engr. Muhammad Usman
FMPE 301	3(2 – 1)	Metallurgy and Workshop Practices	Dr. M. Yasin
ENG 301	3(3 – 0)	English Composition & Comprehension	Ms. Gul Shaheen
IS 301	2(2 – 0)	Islamic Studies	Dr. Ghulam Hussain
MATH 301	3(3 – 0)	Linear Algebra & Calculus	Mr. Nofel Majeed
PHY 301	3(2 – 1)	Applied Physics	Mr. Anees-ur-Rehman
B.Sc Agri. Engg. 3rd semester			
LWCE-401	3(2–1)	Engineering Hydrology	Dr. Jehangir Khan Sial
SEE-401	4(2–2)	Surveying & Leveling	Dr. Muhammad Umair
FMPE-401	3(2–1)	Engineering Thermodynamics	Dr. Muhammad Umair
RS-401	2(2 –0)	Sociology	Mr. Shahbaz Ahmed
MATH-401	3(3–0)	Differential equation, power series, Laplace transform	Mr. Nofel Majeed
CS-401	3(2–1)	Computer Program and application	Ms. Neelam

B.SC AGRI. ENGG. 1ST SEMESTER

ENGR. MUHAMMAD USMAN

Course: Engineering Drawing & Graphics
PERFORMA-1 (Section-A)

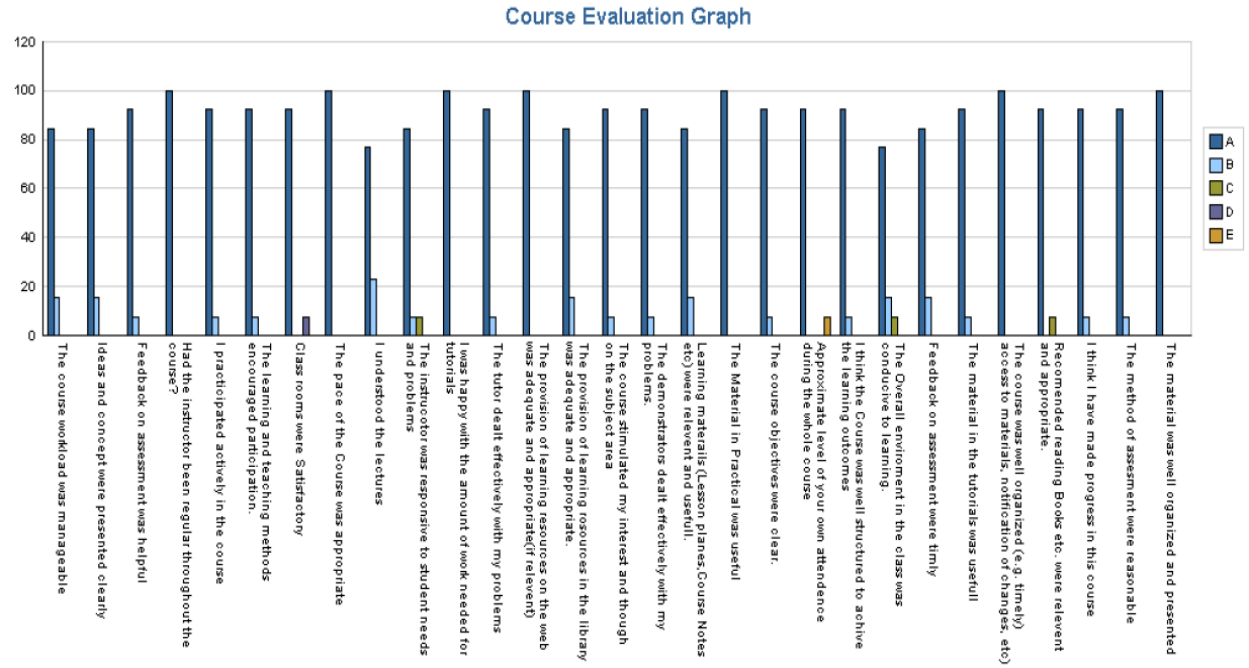

Fig: Course evaluation (Section-B) Engineering Drawing & Graphics, Fall-14

PERFORMA-1 (Section-B)

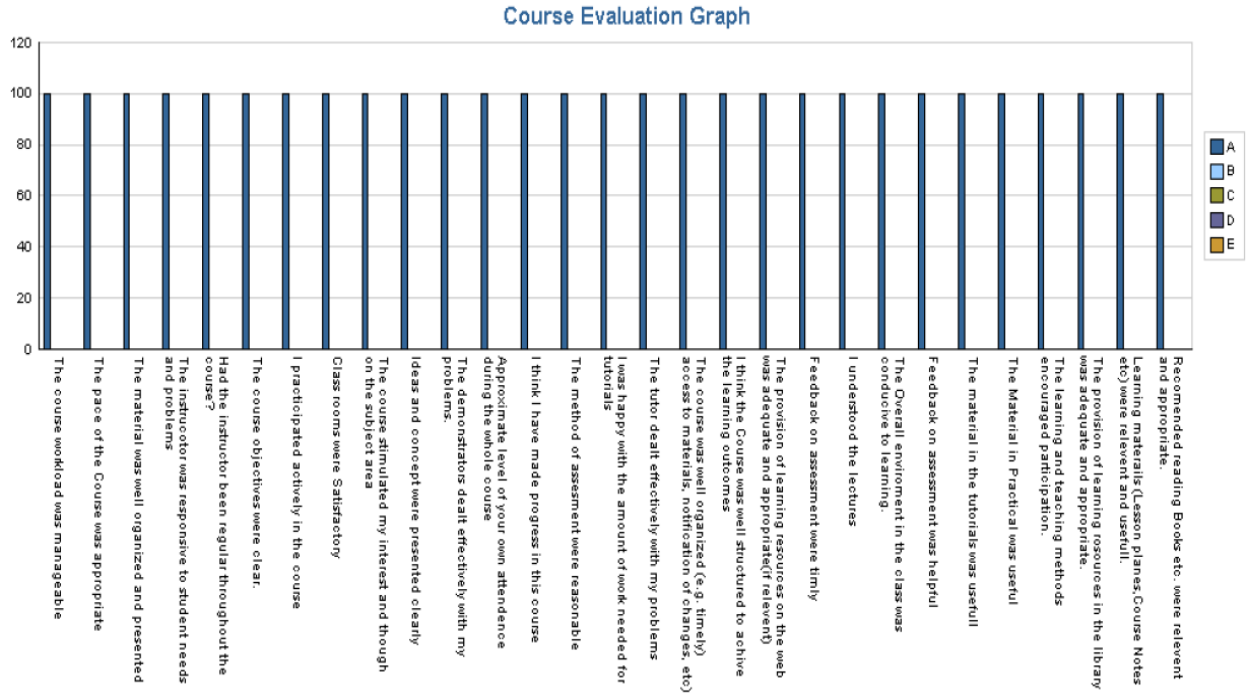

Fig: Course evaluation (Section-B) Engineering Drawing & Graphics, Fall-14

Comments

The course was interesting and provides the basic knowledge of engineering drawing.

PERFORMA-10 (Section-A)

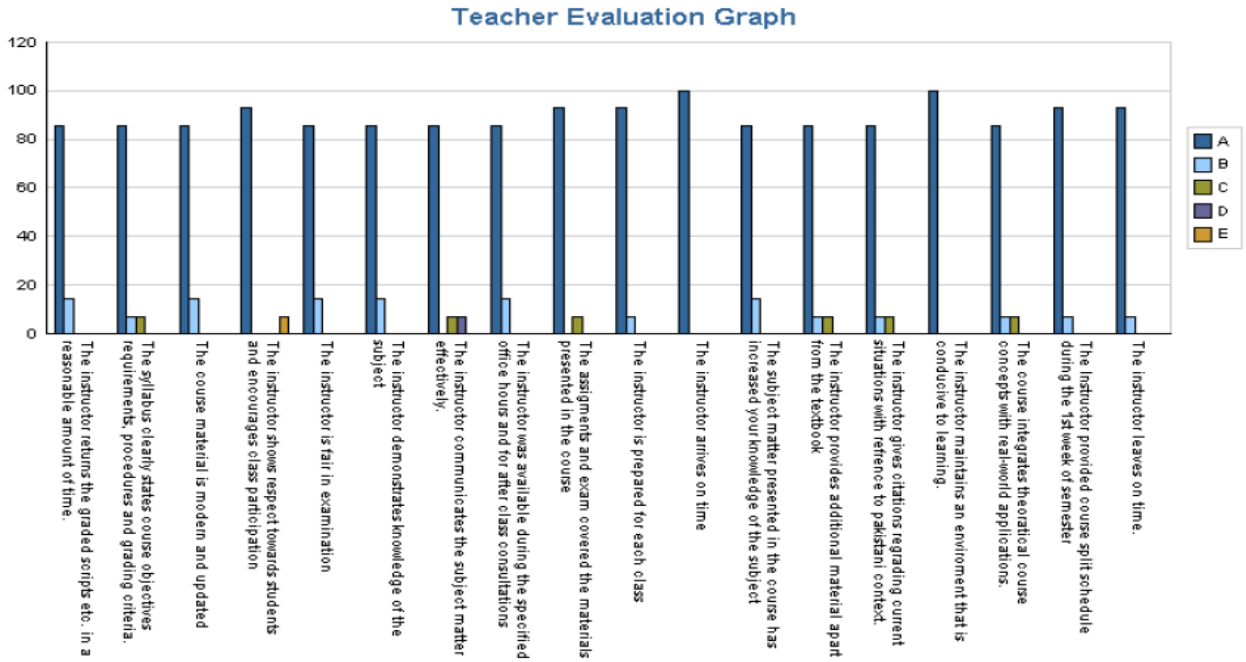

Fig: Teacher evaluation (Section-B) Engineering Drawing & Graphics, Fall-14

PERFORMA-10 (Section-B)

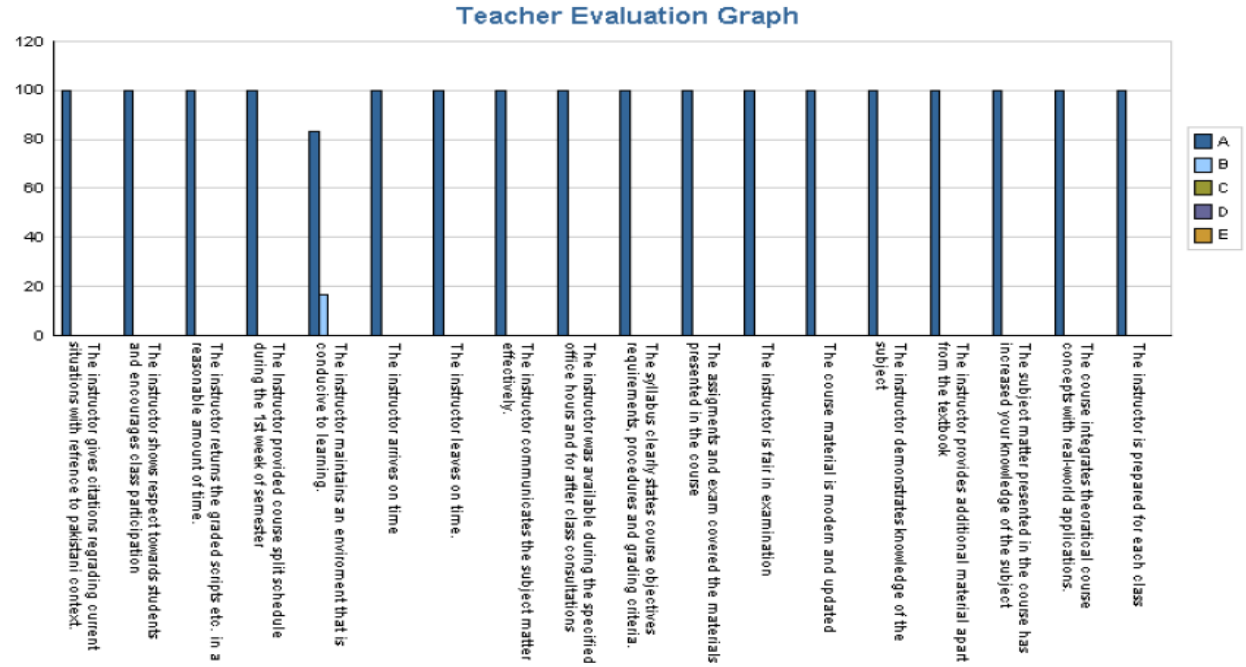

Fig: Teacher evaluation (Section-B) Engineering Drawing & Graphics, Fall-14

Comments

The graph shows that the teacher was dedicated and conveys the knowledge effectively. He was punctual, friendly and gives respect to the students.

PROF. DR. M. YASIN

Course: Metallurgy and Workshop Practices

PERFORMA-1(Section-A)

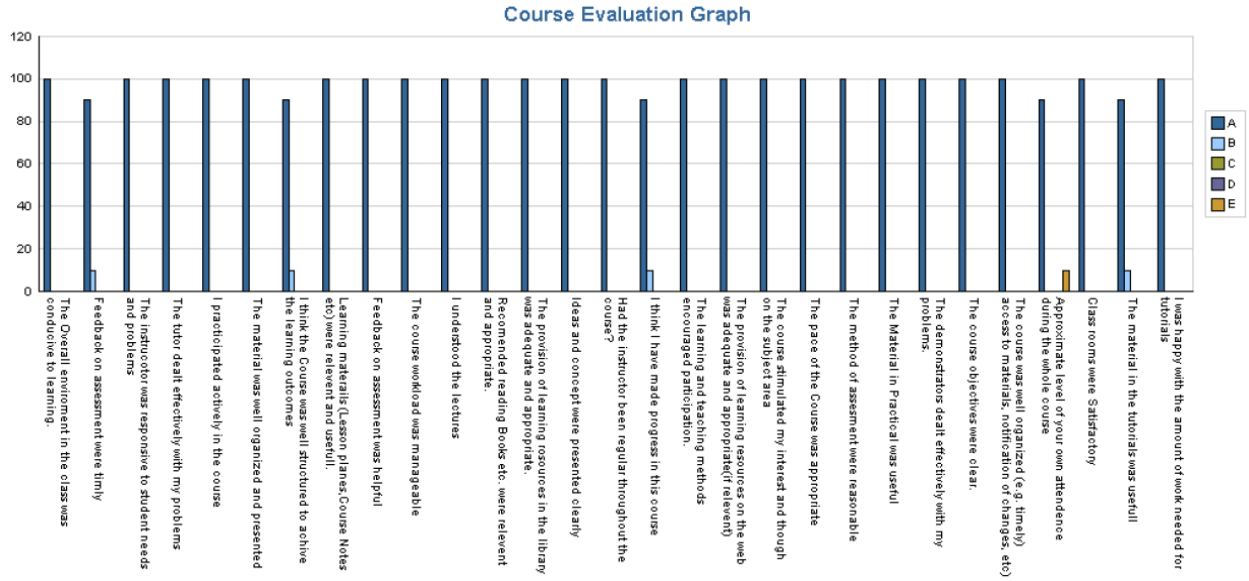

Fig: Course evaluation (Section-A) Metallurgy and Workshop Practices, Fall-14

PERFORMA-1 (Section-B)

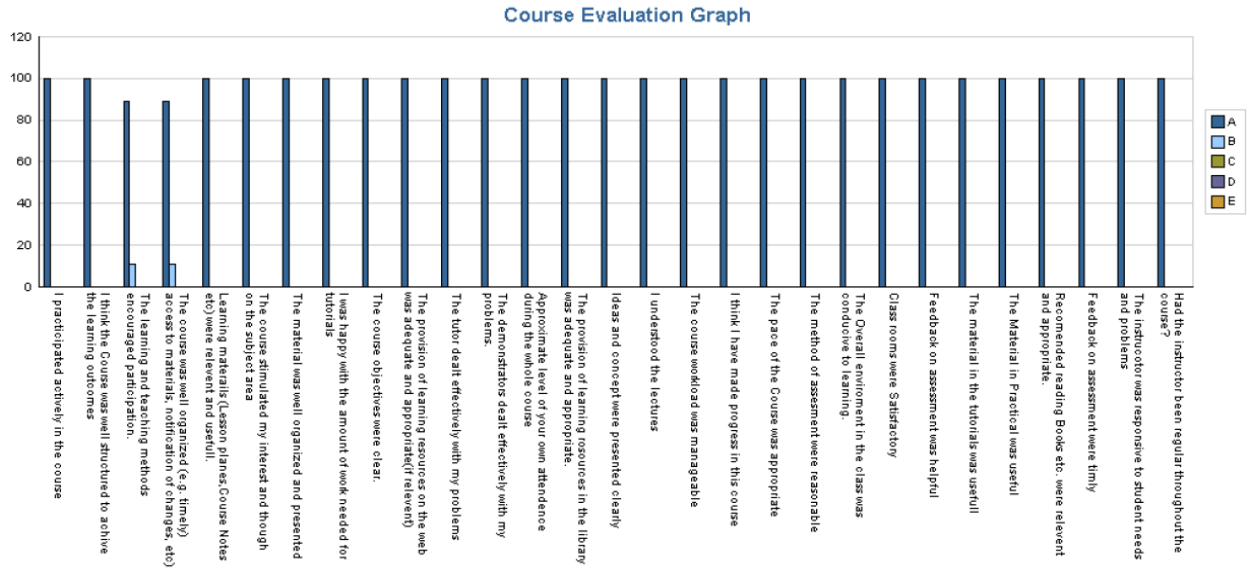

Fig: Course evaluation (Section-A) Metallurgy and Workshop Practices, Fall-14

Comments

The course was very importing. The students learnt useful knowledge and were satisfied with course objectives and contents.

PERFORMA-10 (Section-A)

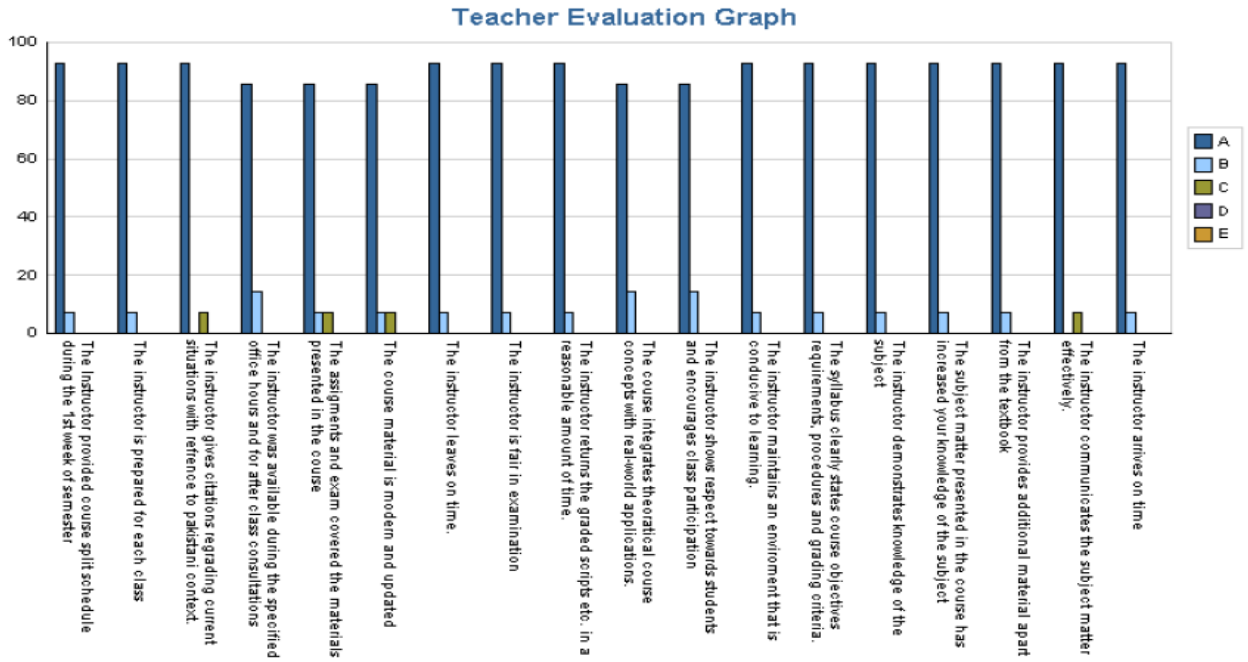

Fig: Teacher evaluation (Section-A) Metallurgy and Workshop Practices, Fall-14

PERFORMA-10 (Section-B)

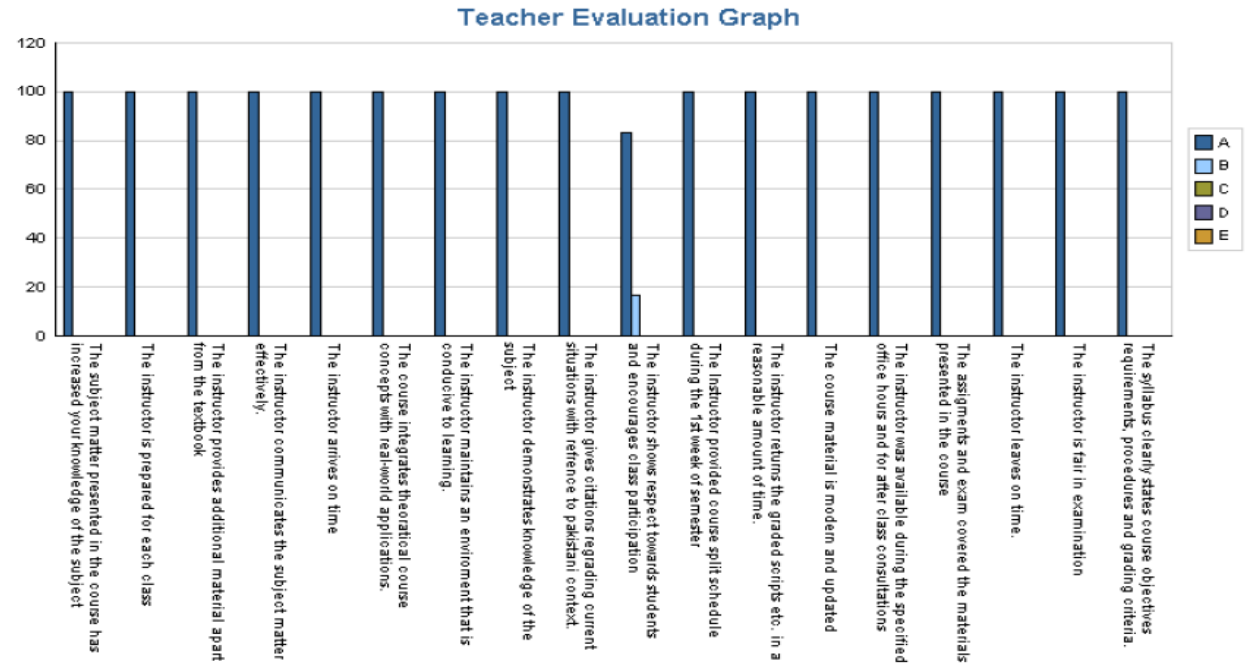

Fig: Teacher evaluation (Section-A) Metallurgy and Workshop Practices, Fall-14

Comments

The graph shows that the teacher was dedicated and conveys the knowledge effectively. He was punctual, friendly and gives respect to the students.

PROF. DR. J. K. SIAL

Course: Fluid Mechanics

PERFORMA-1 (Section-A)

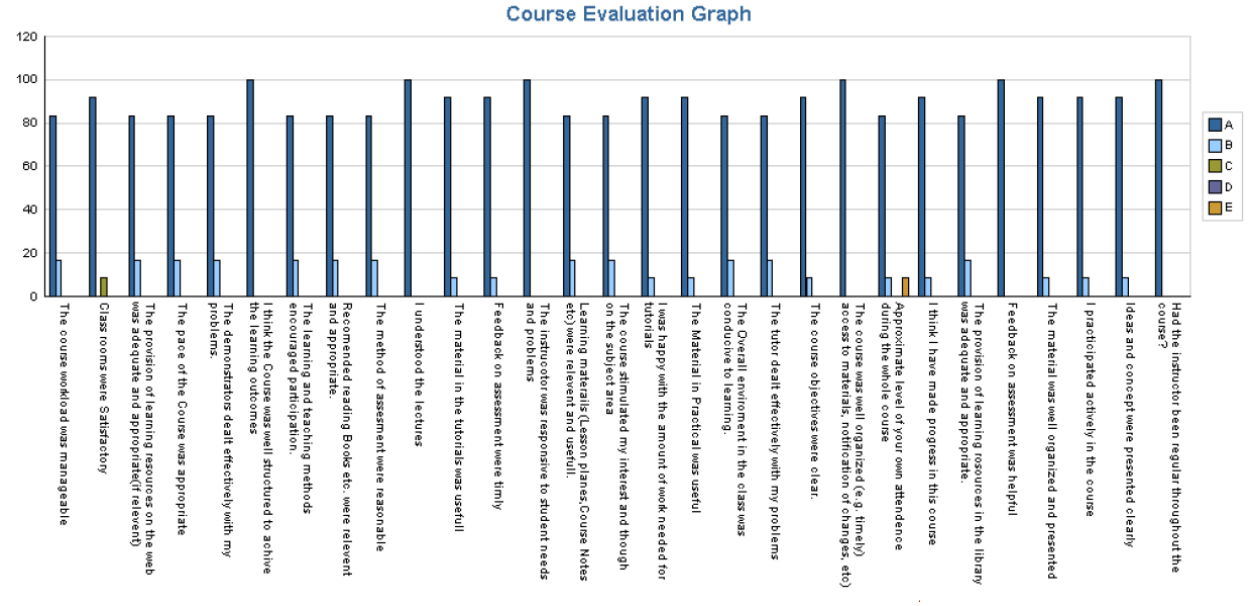

Fig: Course evaluation (Section-A) Fluid Mechanics, Fall-14

PERFORMA-1 (Section-B)

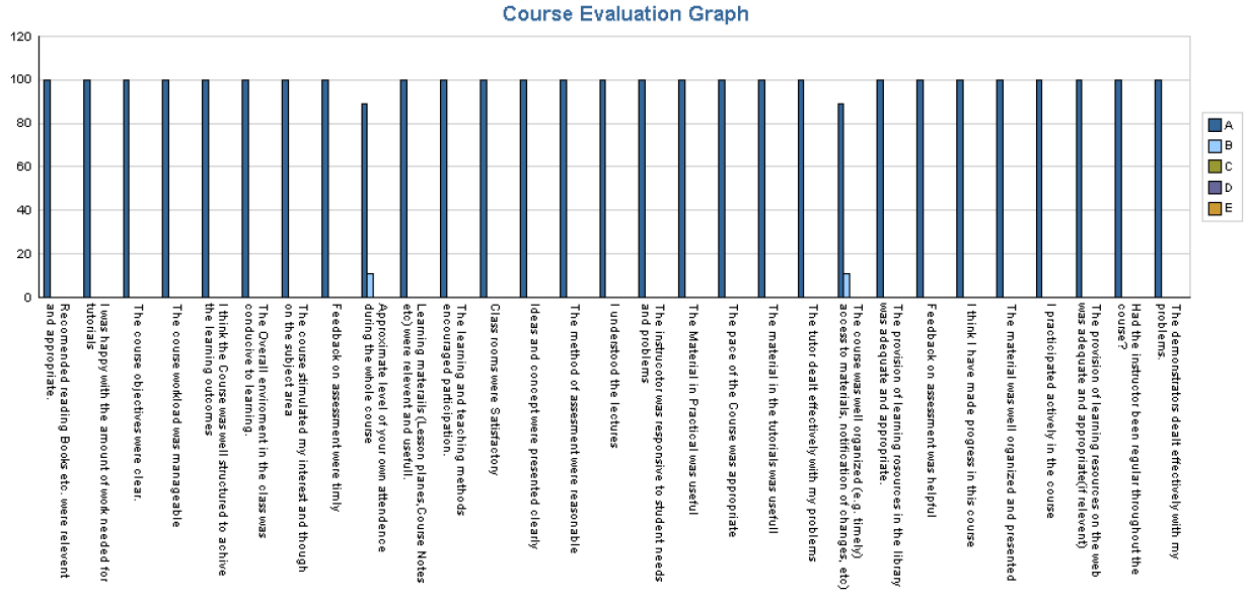

Fig: Course evaluation (Section-B) Fluid Mechanics, Fall-14

Comments

The course was interesting and provides the useful knowledge about Fluid Mechanics.

PERFORMA-10 (Section-A)

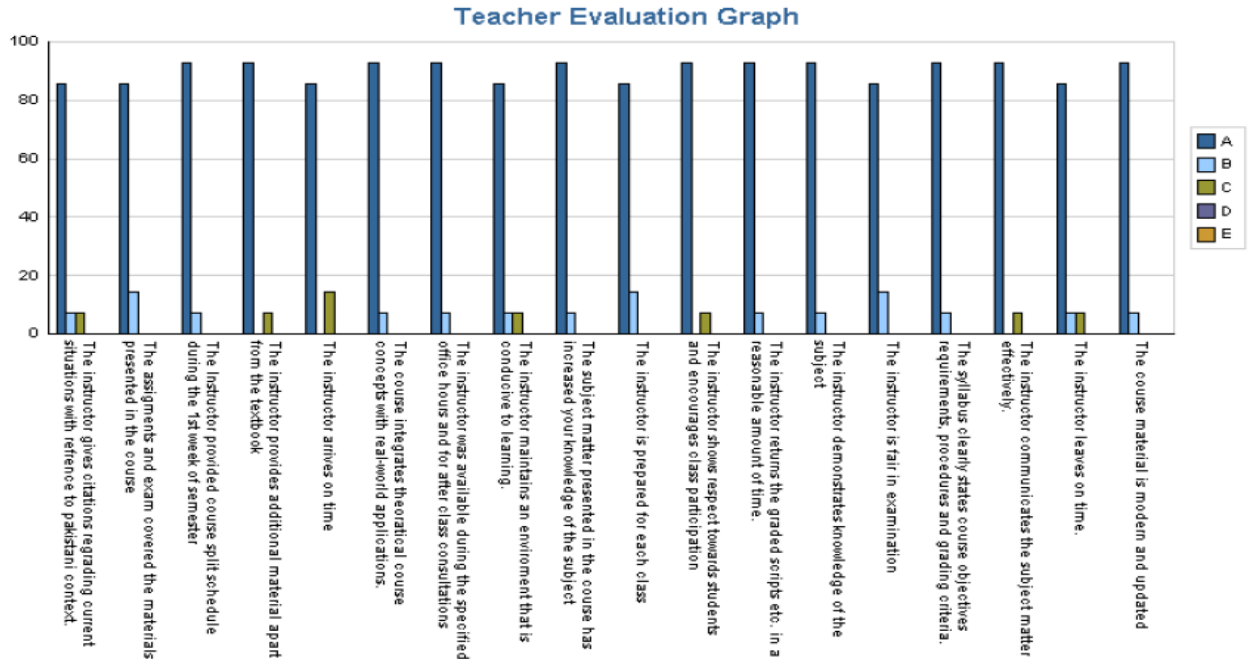

Fig: Teacher evaluation (Section-A) Fluid Mechanics, Fall-14

PERFORMA-10 (Section-B)

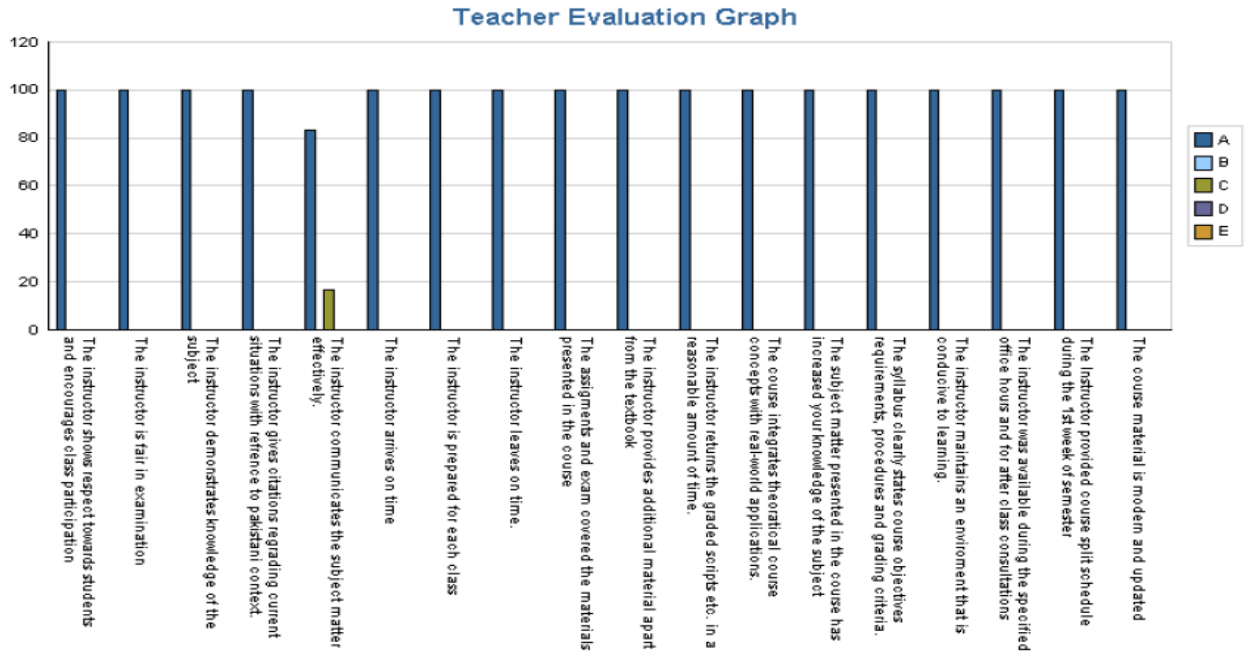

Fig: Teacher evaluation (Section-A) Fluid Mechanics, Fall-14

Comments

The teacher was dedicated and conveys the knowledge effectively. He was friendly and respective to the students. Students receive the course split schedule timely.

MR. ANEES-UR-REHMAN

Course: Applied Physics

PERFORMA-1(Section-A)

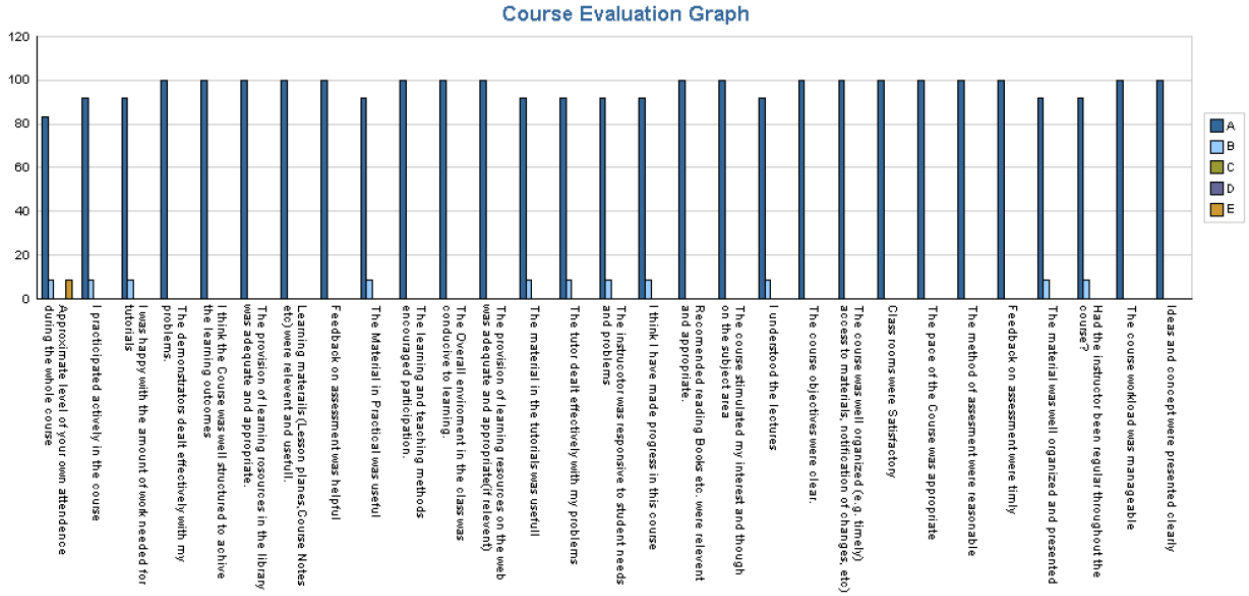

Fig: Course evaluation (Section-A) Applied Physics, Fall-14

PERFORMA-1 (Section-B)

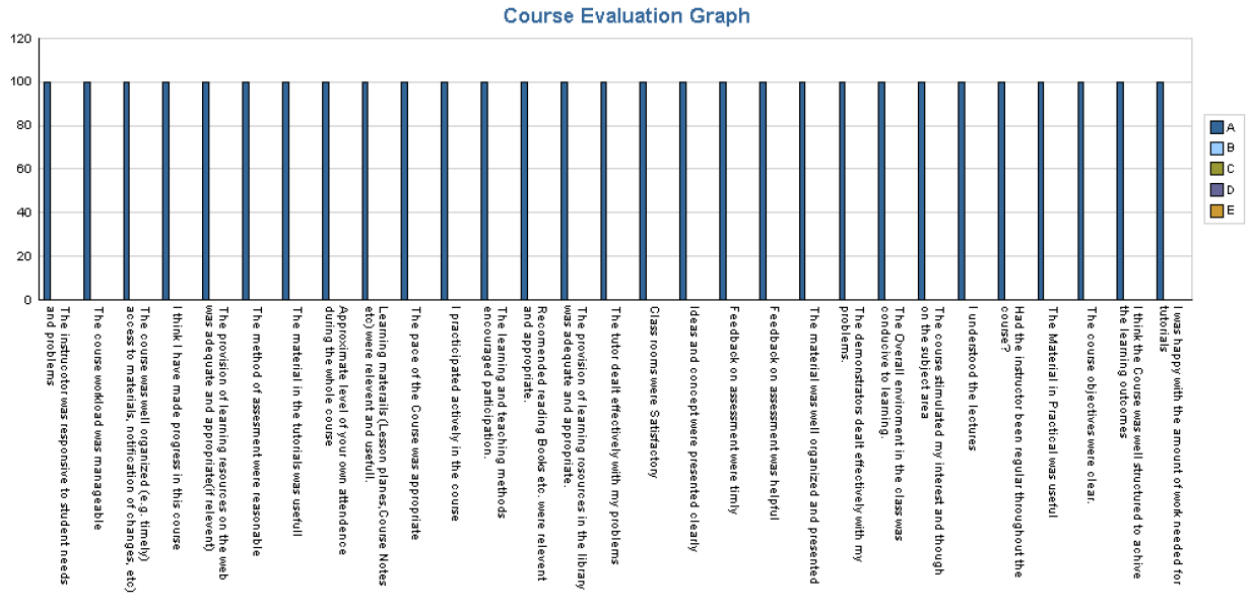

Fig: Course evaluation (Section-B) Applied Physics, Fall-14

General Comments

It was supporting course that provides the useful knowledge about physic principles for engineering use. Students were satisfied with course contents and objectives.

PERFORMA-10 (Section-A)

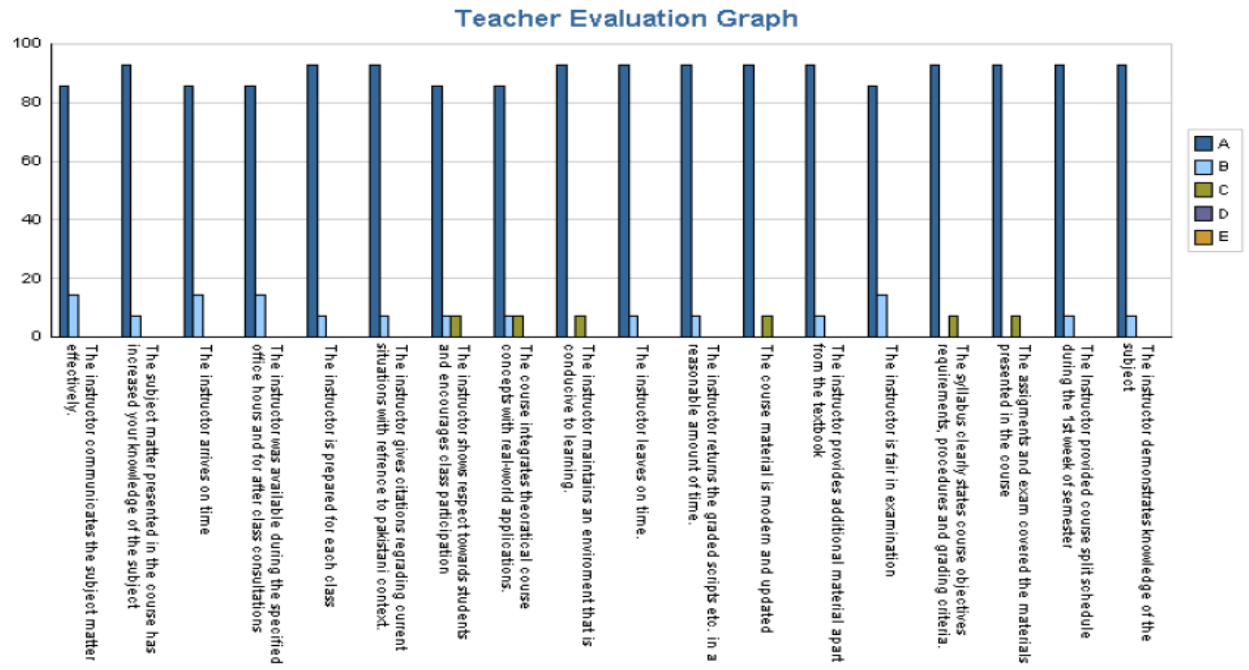

Fig: Course evaluation (Section-B) Applied Physics, Fall-14

PERFORMA-10 (Section-B)

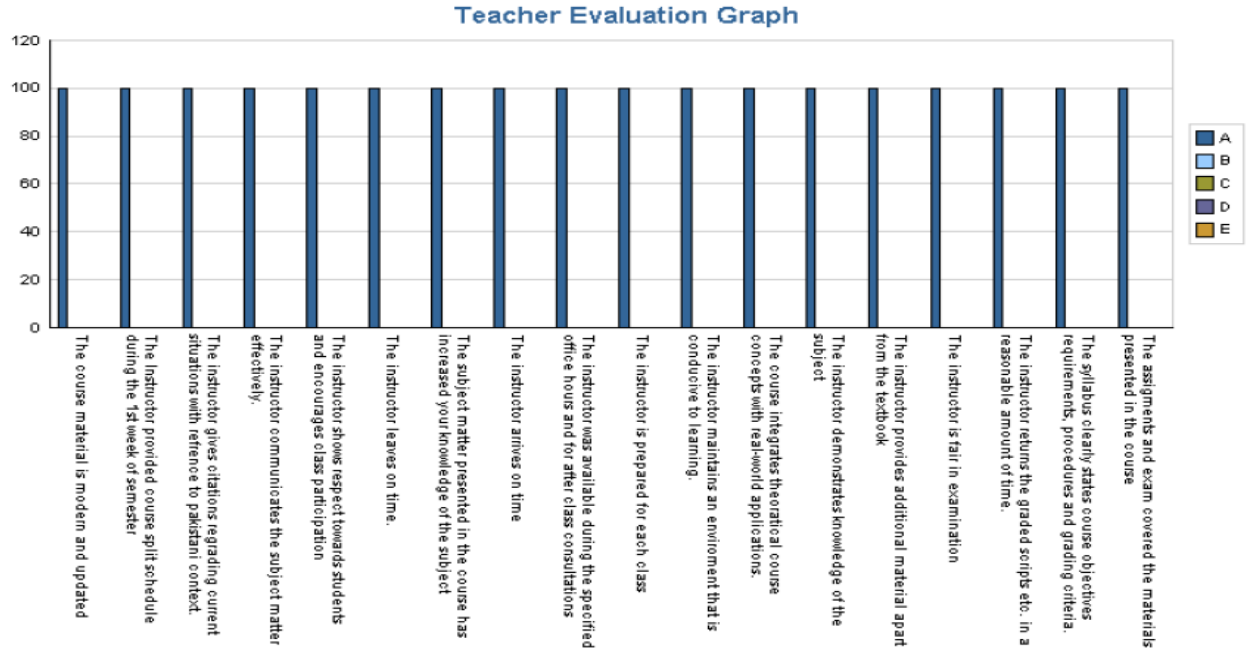

Fig: Course evaluation (Section-B) Applied Physics, Fall-14

Comments

The teacher remained prepared, regular in the class and showed respect for the students.

B.SC AGRI. ENGG. 3rd SEMESTER

ENGR. MUHAMMAD USMAN

Course: Engineering Hydrology

PERFORMA-1(Section-A)

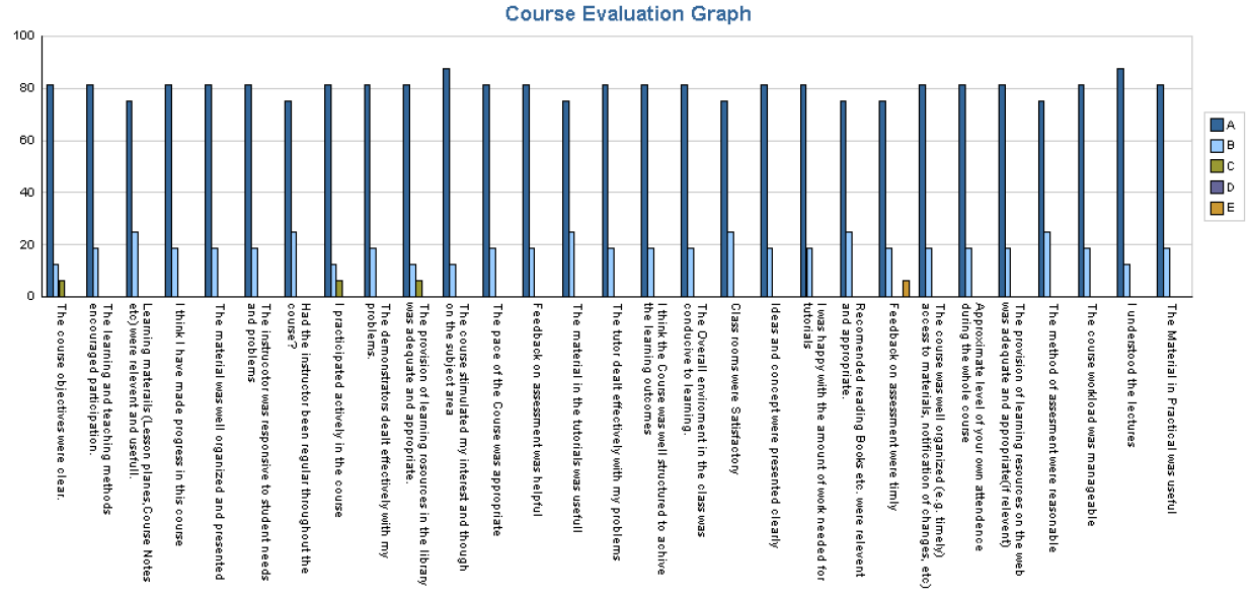

Fig: Course evaluation (Section-A) Engineering Hydrology, Fall-14

PERFORMA-1 (Section-B)

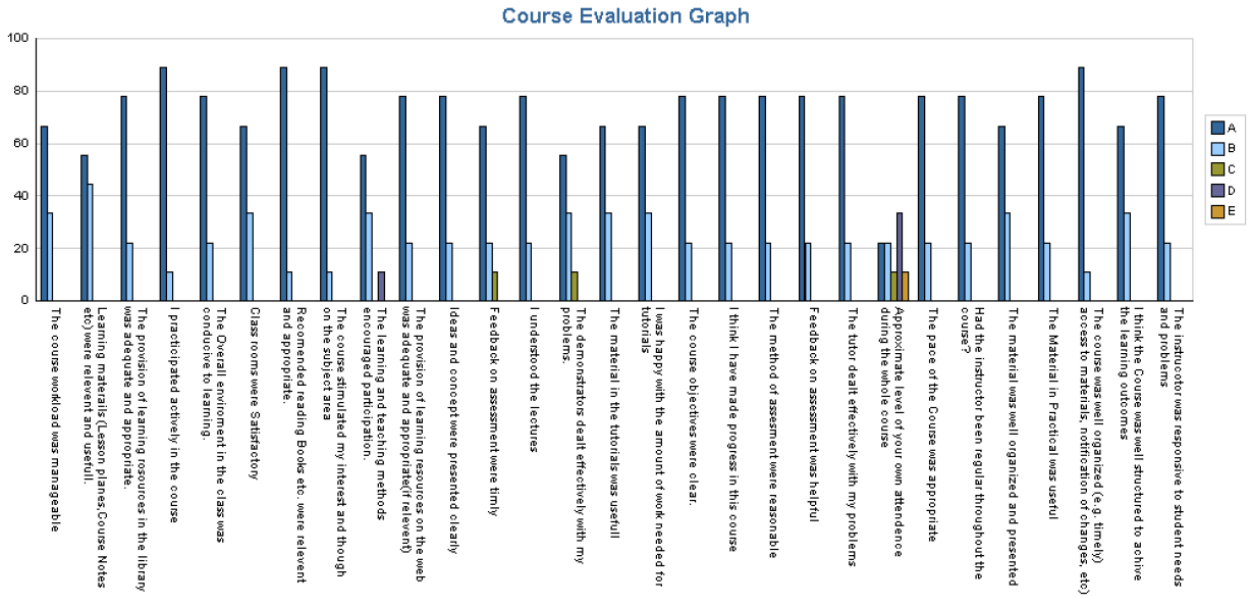

Fig: Course evaluation (Section-B) Engineering Hydrology, Fall-14

Comments

The course provides the valuable knowledge about Engineering Hydrology.

PERFORMA-10 (Section-A)

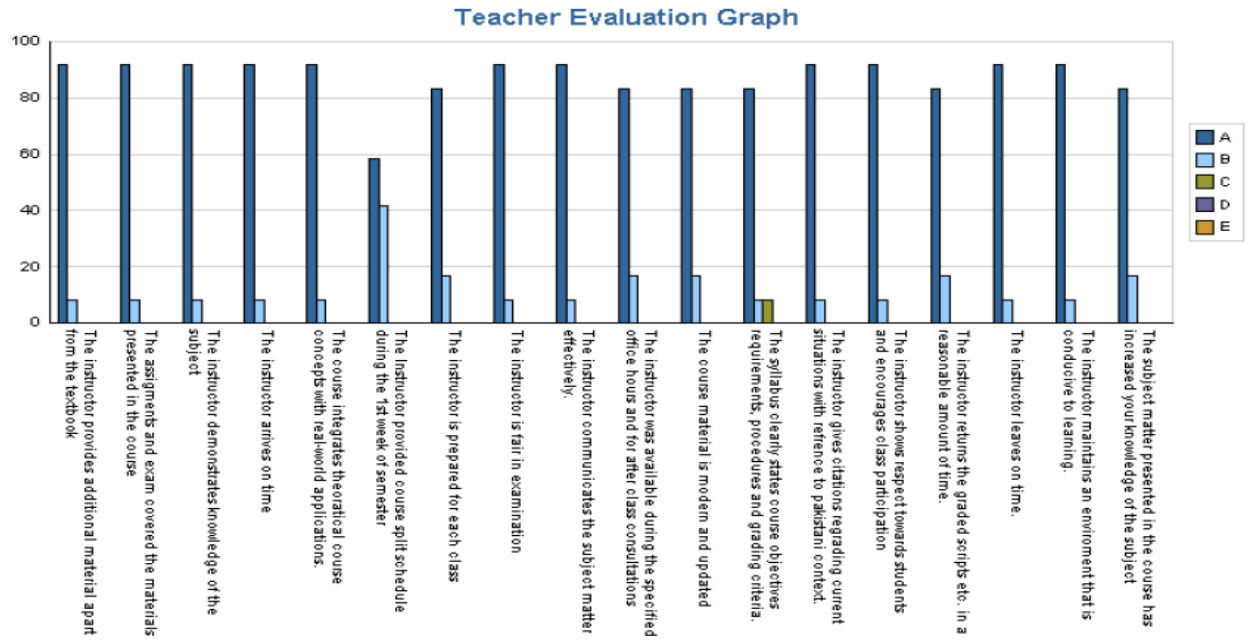

Fig: Teacher evaluation (Section-A) Engineering Hydrology, Fall-14

PERFORMA-10 (Section-B)

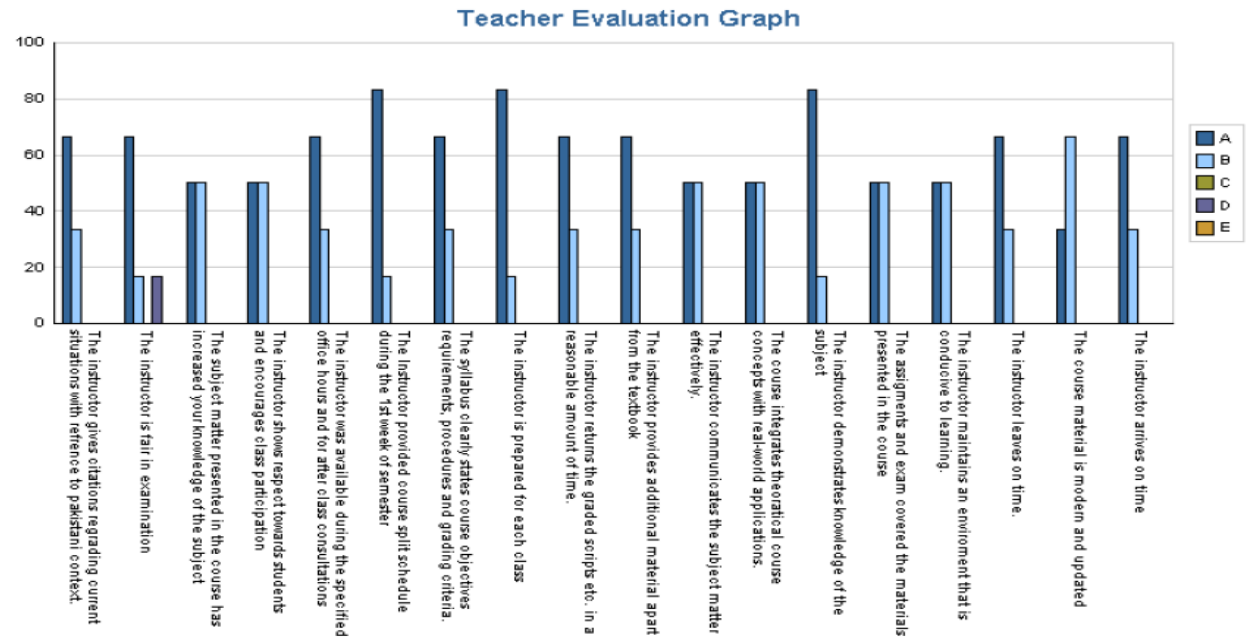

Fig: Teacher evaluation (Section-B) Engineering Hydrology, Fall-14

Comments

The graph shows that the teacher was dedicated and conveys the knowledge effectively. He was punctual and friendly. Students could not receive the course split schedule timely due to teacher busy schedule.

DR. MUHAMMAD UMAIR

Course: Surveying & Leveling

PERFORMA-1(Section-A)

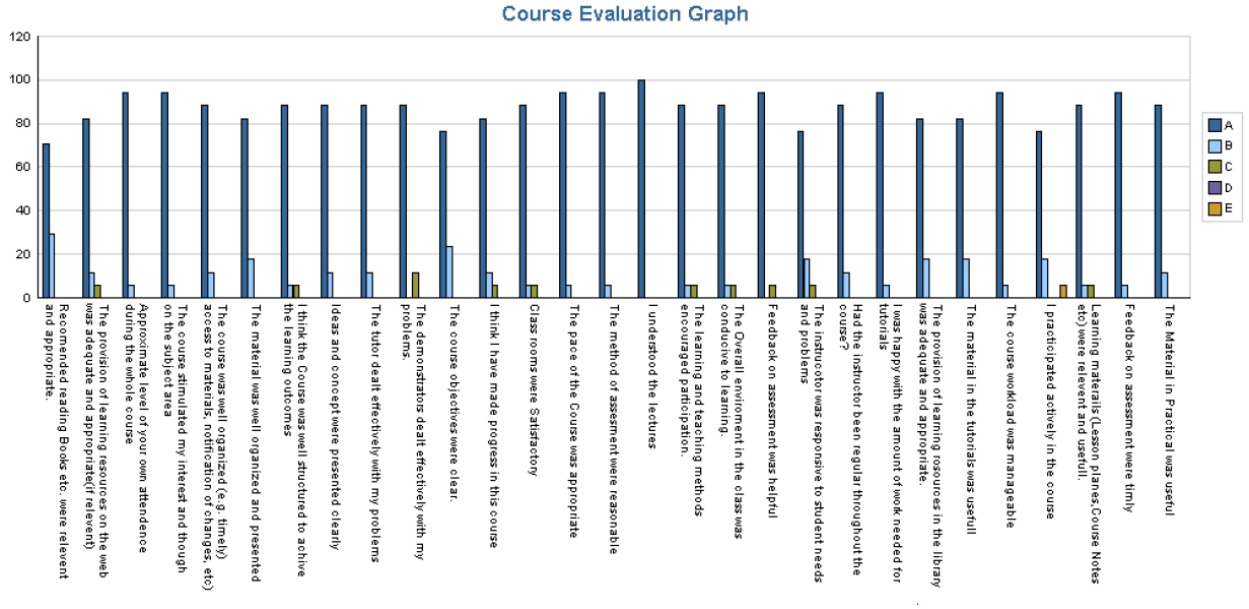

Fig: Course evaluation (Section-A) Surveying & Leveling, Fall-14

PERFORMA-1 (Section-B)

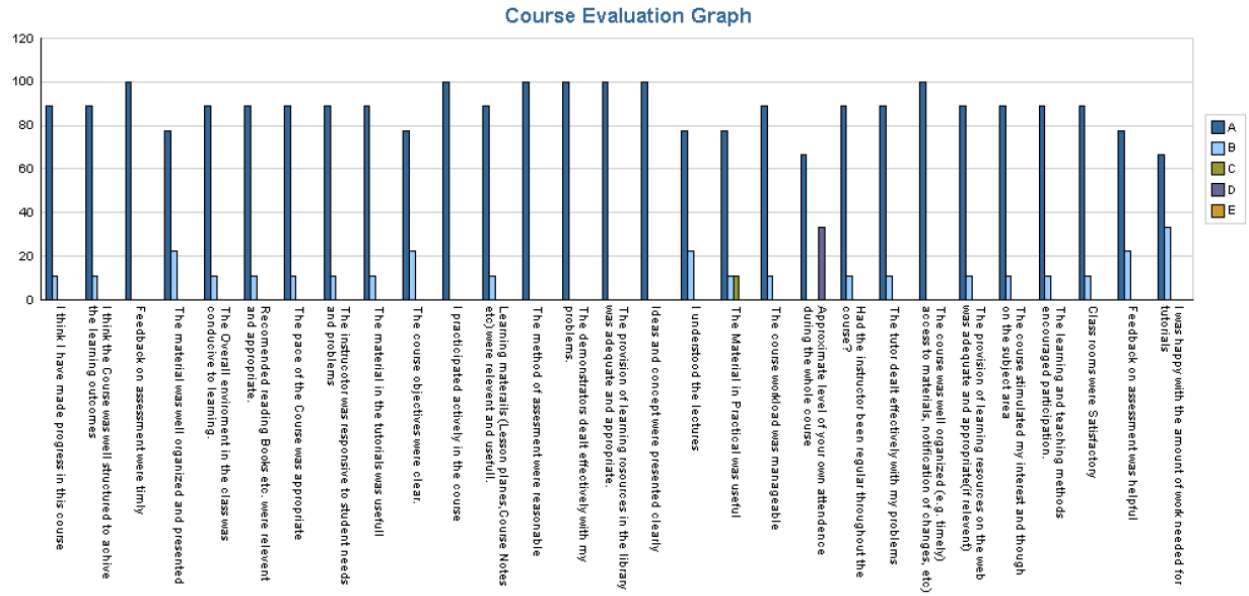

Fig: Course evaluation (Section-B) Surveying & Leveling, Fall-14

General Comments

The course was interesting and provides the knowledge surveying and leveling and it importance in Agricultural Engineering. Students were satisfied with course contents and objectives.

PERFORMA-10 (Section-A)

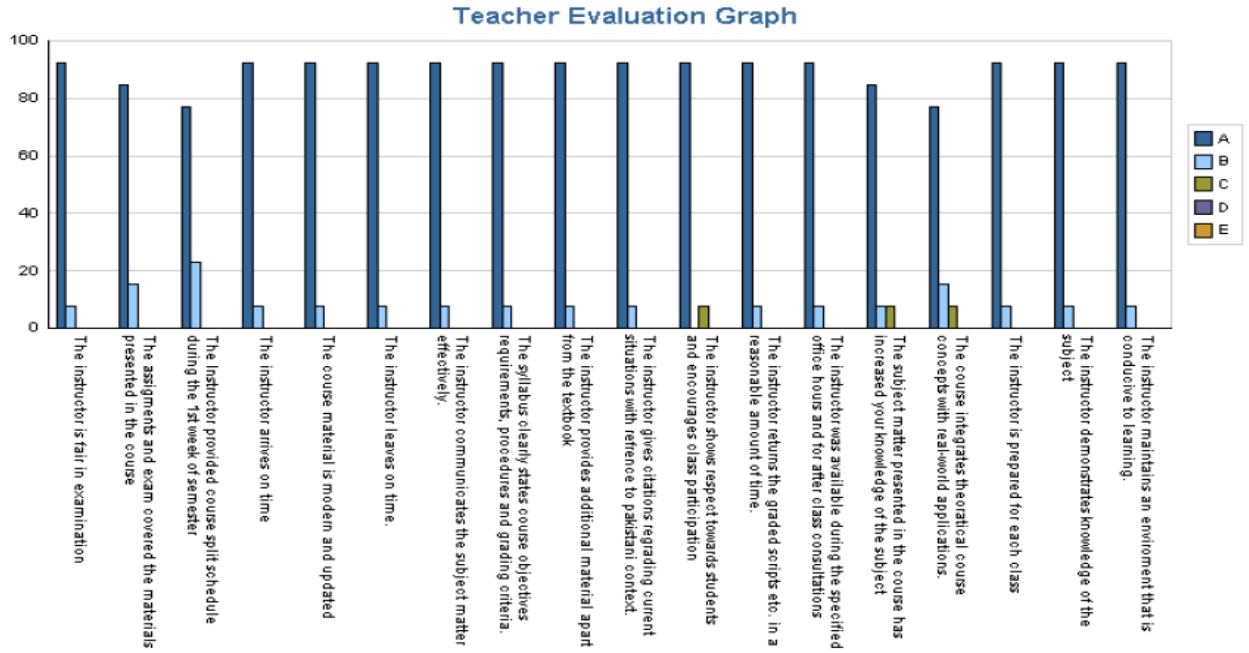

Fig: Teacher evaluation (Section-A) Surveying & Leveling, Fall-14

PERFORMA-10 (Section-B)

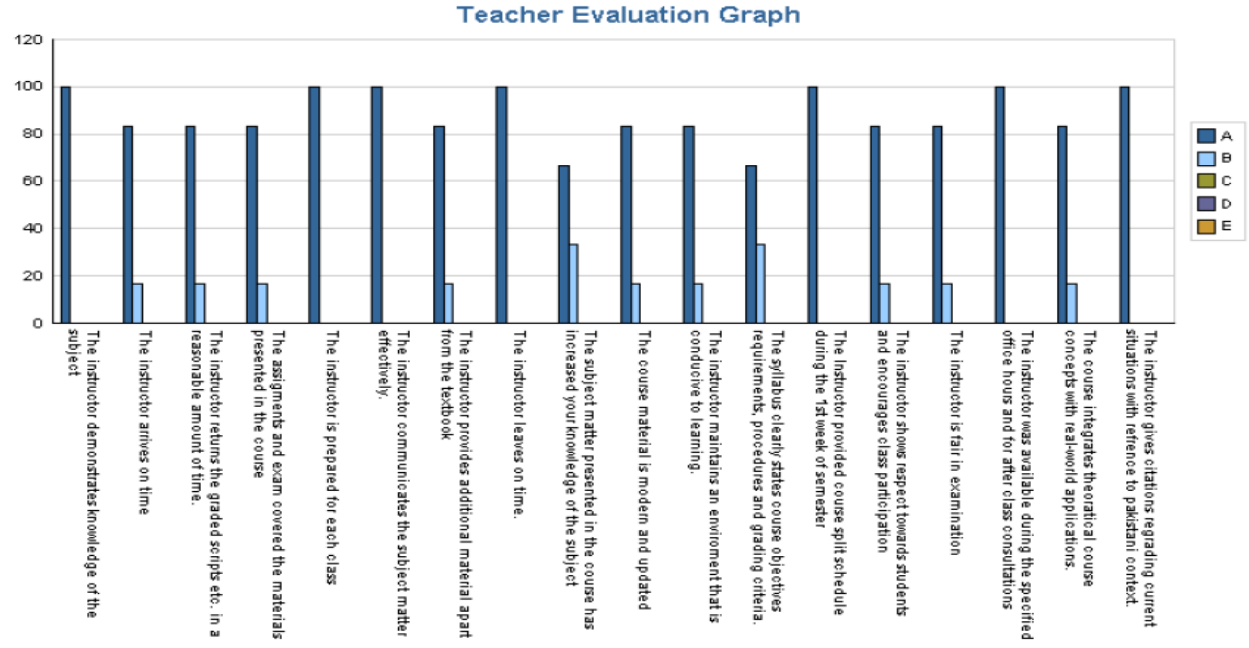

Fig: Teacher evaluation (Section-A) Surveying & Leveling, Fall-14

Comments

According to students feedback teacher was dedicated, remained prepared, regular in the class and showed respect for the students.

DR. MUHAMMAD UMAIR

Course: Engineering Thermodynamics

PERFORMA-1(Section-A)

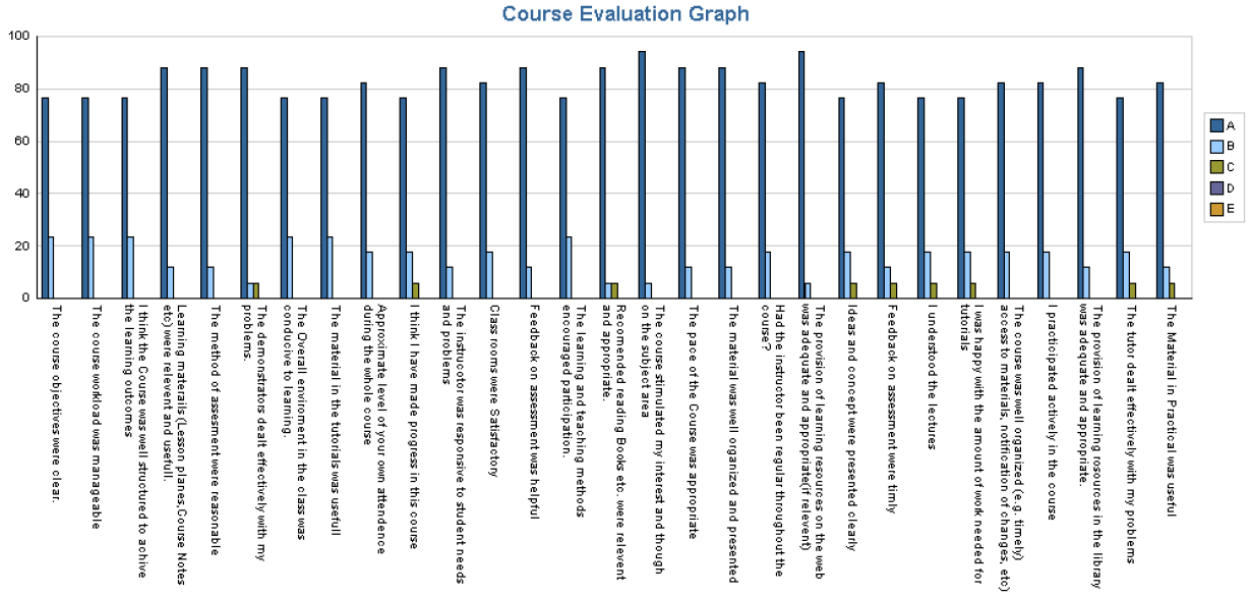

Fig: Course evaluation (Section-A) Engineering Thermodynamics, Fall-14

PERFORMA-1 (Section-B)

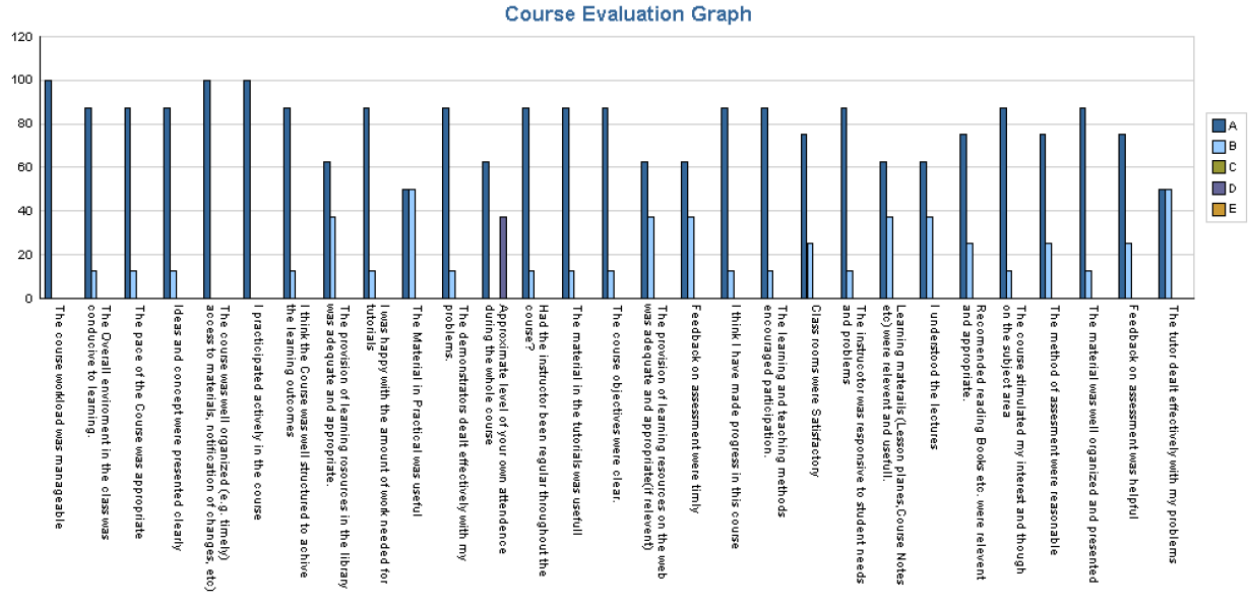

Fig: Course evaluation (Section-A) Engineering Thermodynamics, Fall-14

General Comments

The course was knowledge full about reasons for climate change and it impact on water resources. Students were satisfied with course contents and objectives.

PERFORMA-10 (Section-A)

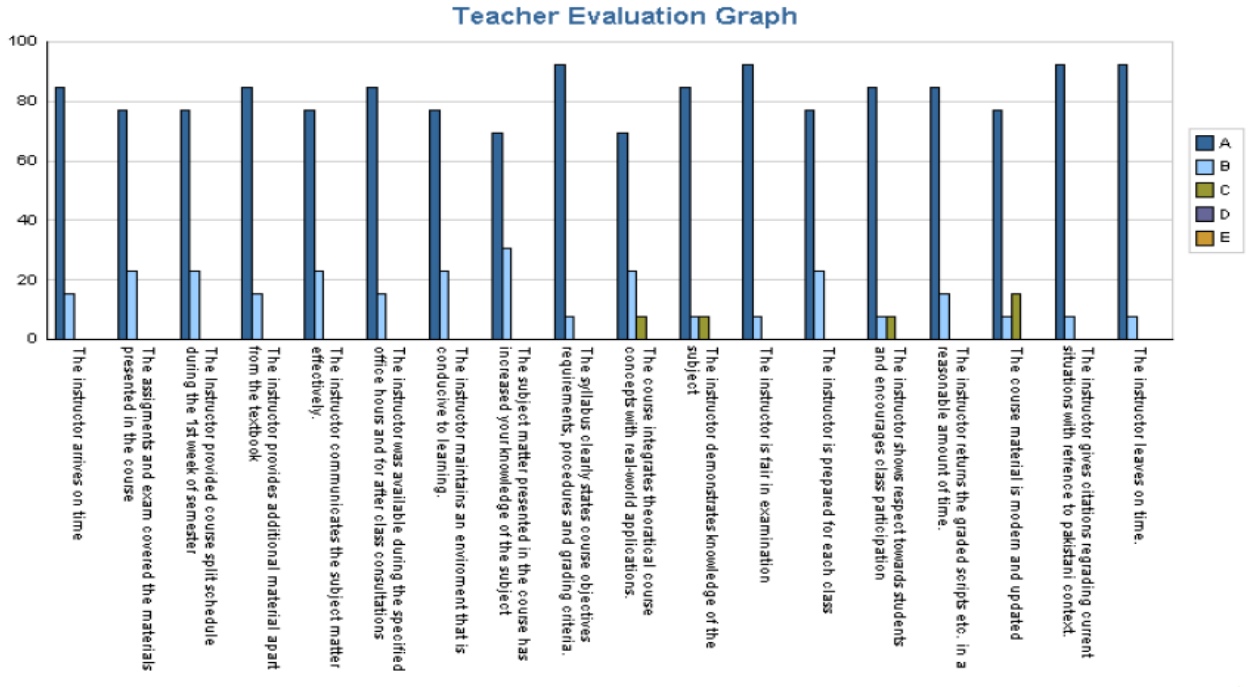

Fig: Teacher evaluation (Section-A) Engineering Thermodynamics, Fall-14

PERFORMA-10 (Section-B)

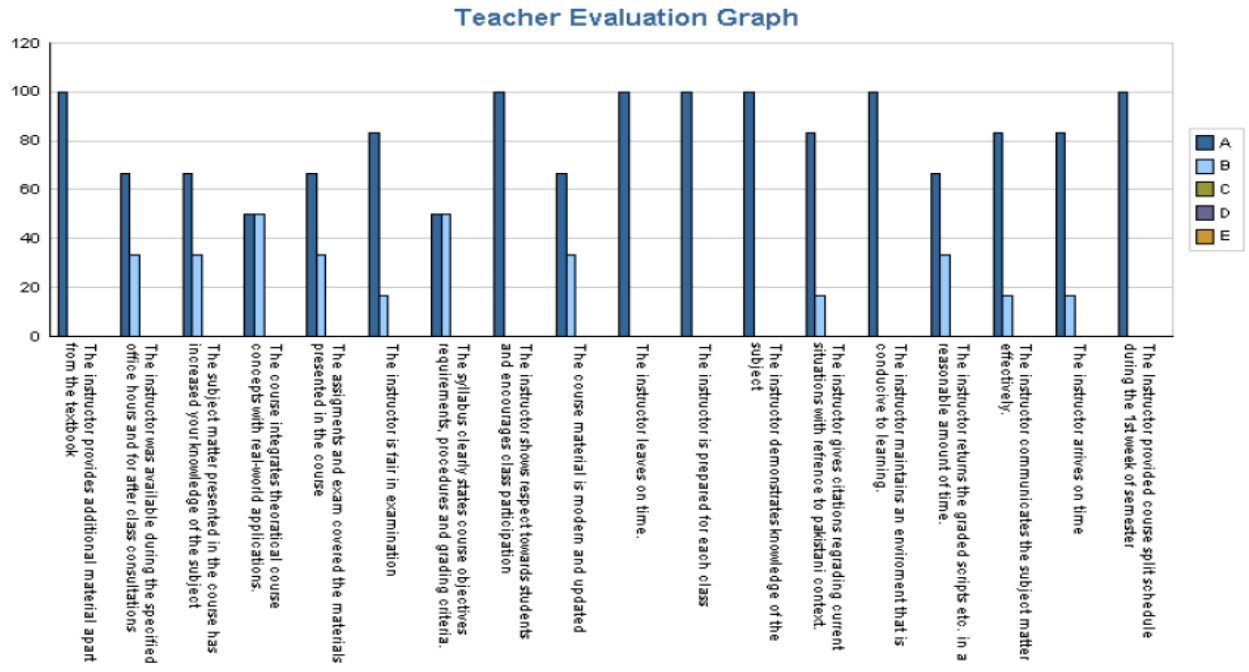

Fig: Teacher evaluation (Section-A) Engineering Thermodynamics, Fall-14

Comments

The teacher was dedicated and tried his best to deliver the contents effectively.

MS. NEELAM

Course: Computer Program and application

PERFORMA-1(Section-A)

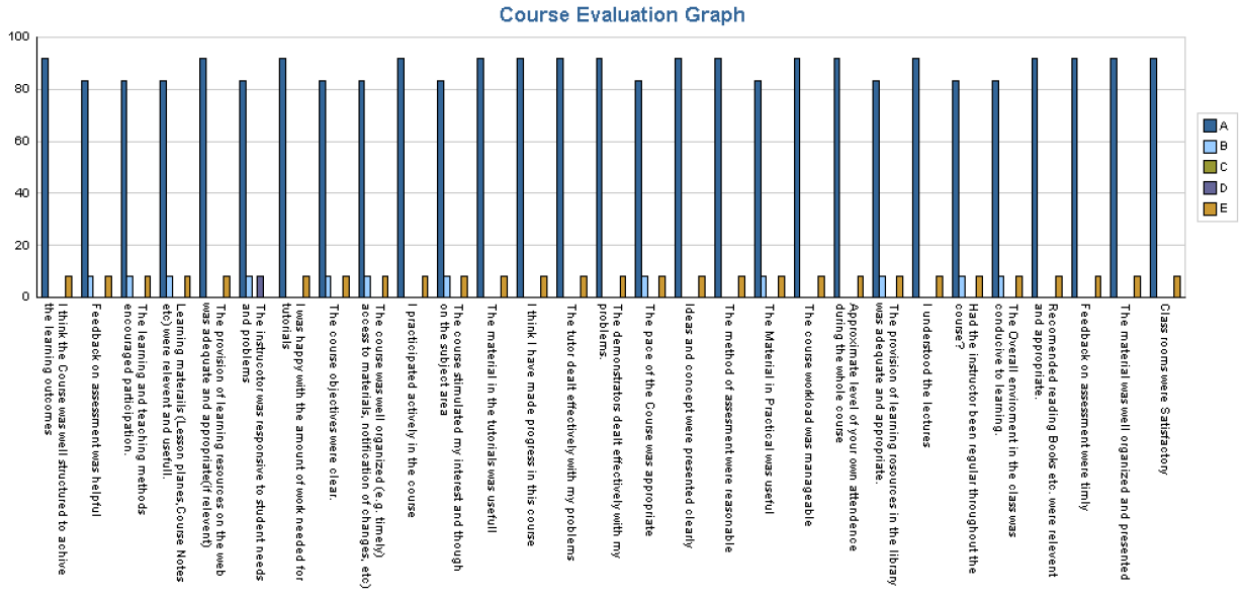

Fig: Course evaluation (Section-A) Computer Program and application, Fall-14

PERFORMA-1 (Section-B)

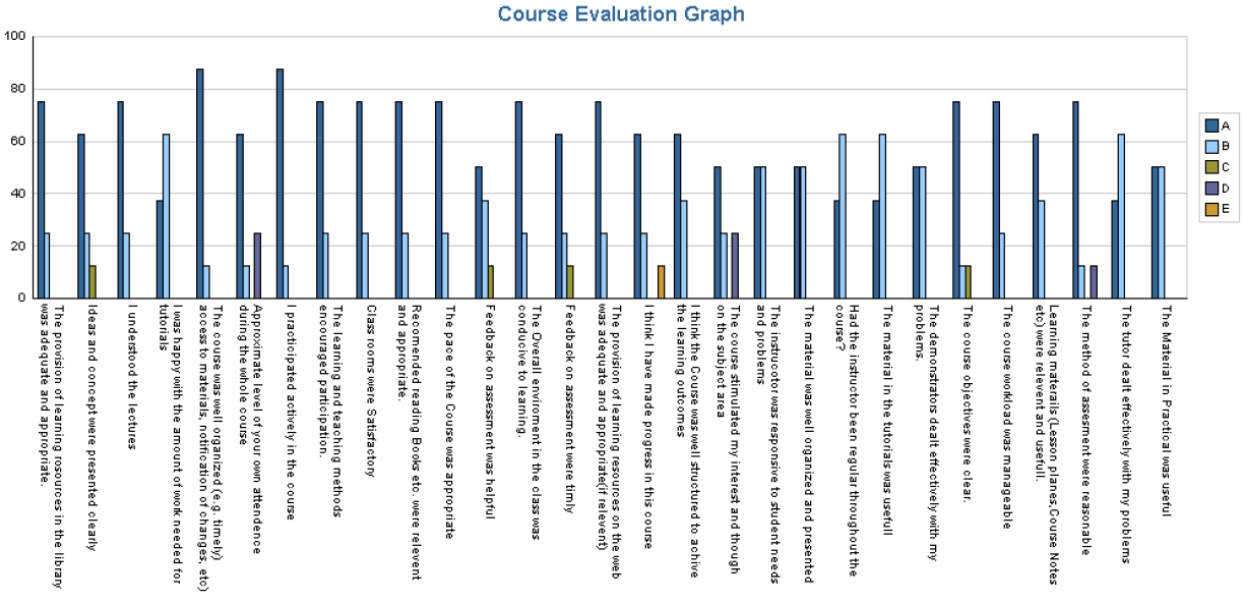

Fig: Course evaluation (Section-B) Computer Program and application, Fall-14

General Comments

The course was interesting and informative. Students were satisfied with course contents and objectives.

PERFORMA-10 (Section-A)

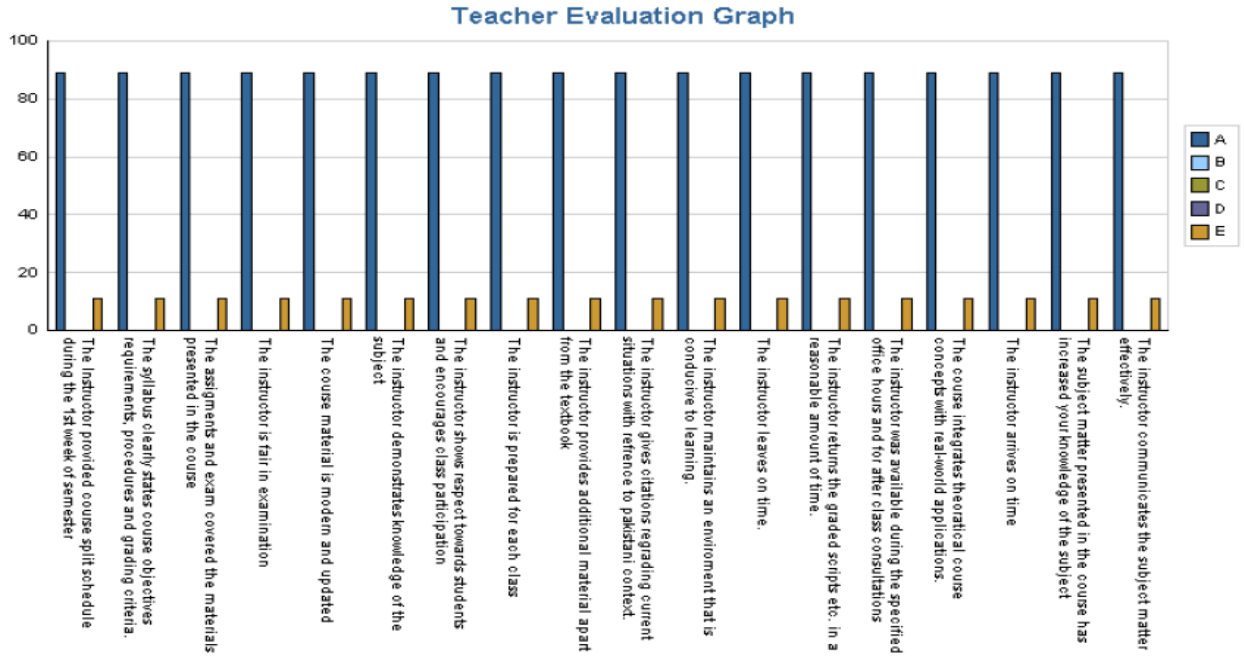

Fig: Teacher evaluation (Section-A) Computer Program and application, Fall-14

PERFORMA-10 (Section-B)

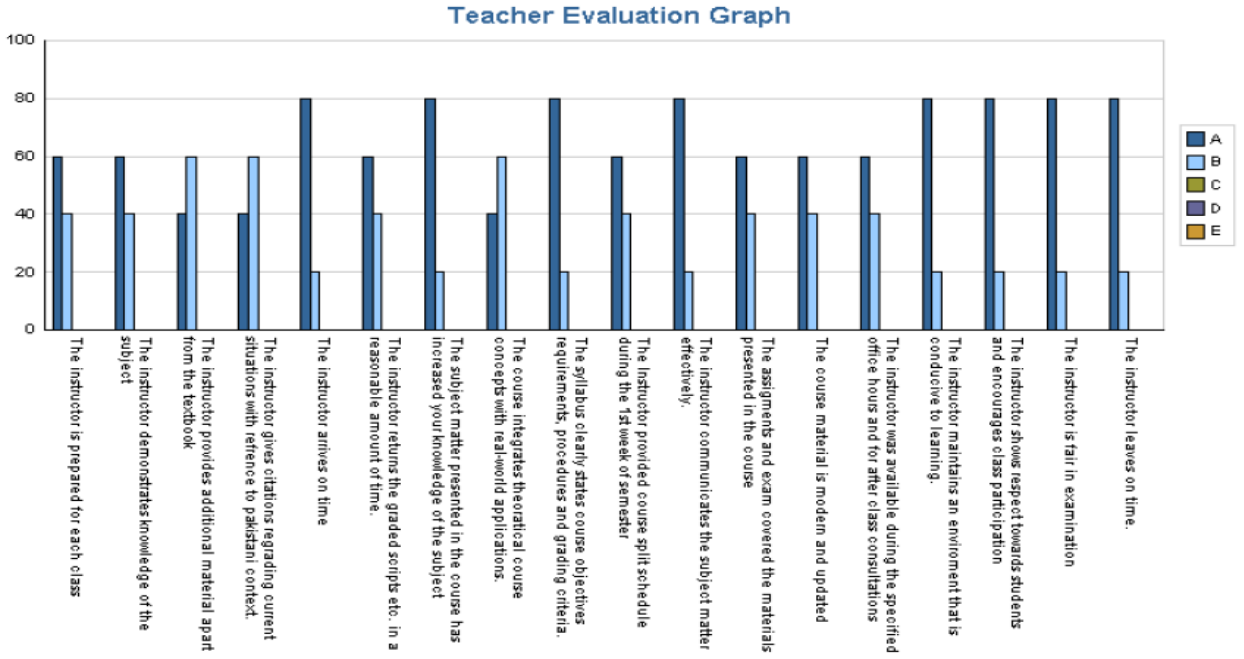

Fig: Teacher evaluation (Section-B) Computer Program and application, Fall-14

Comments

According to students feedback teacher was dedicated and respective towards students.

Spring-15			
Course no.	**Credit hour**	**Title**	**Teacher**
B.Sc Agri. Engg. 2nd semester			
FMPE 302	3(2 – 1)	Manufacturing Engineering	Dr. M. Yasin
FSEE 306	3(2 – 1)	Engineering Mechanics	Dr. M. Umair
FSEE 302	2(1 – 1)	Computer Aided Design	Engr. M. Usman
SS 302	3(2 – 1)	Soil Science	Dr. Tanveer Iqbal
SSH 302	2(2 – 0)	Pakistan Studies	Ms Salma
AGRO 302	3(2 – 1)	Basic Agriculture	Dr. Abdul Manf
B.Sc Agri. Engg. 4th semester			
FSEE 402	3(2 – 1)	Mechanics of Materials	Dr. M. Umair
FSEE 406	3(2 – 1)	Farm Structure & Materials	Dr. J. K. Sial
FMPE 402	3(2 – 1)	Farm Power	Dr. M. Yasin
LWCE 402	3(2 – 1)	Soil Mechanics	Engr. M. Usman
LWCE 406	3(2 – 1)	Open Channel Hydraulics	Mr. M. Yasin
HE 402	3(2 – 1)	Landscape Engineering	Dr. J. K. Sial
HE 402	3(2 – 1)	Landscape Engineering	Dr. M. Yasin

B.SC AGRI. ENGG. 2nd SEMESTER

PROF. DR. M. YASIN

Course: Manufacturing Engineering

PERFORMA-1(Section-A)

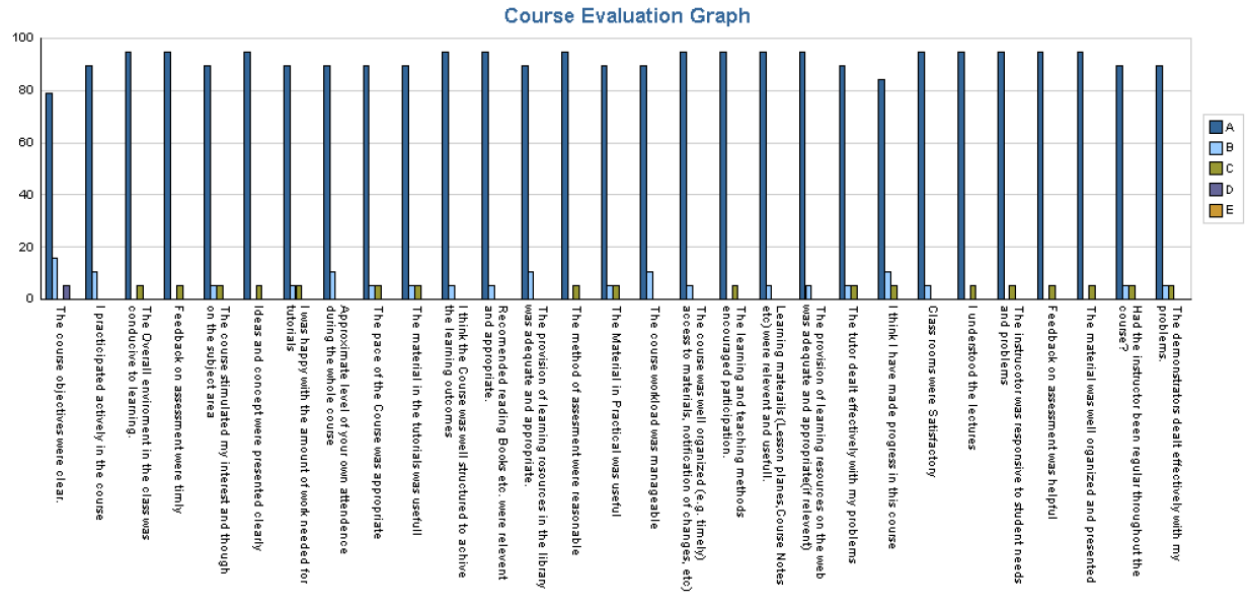

Fig: Course evaluation (Section-A) Manufacturing Engineering, Spring-15

PERFORMA-1 (Section-B)

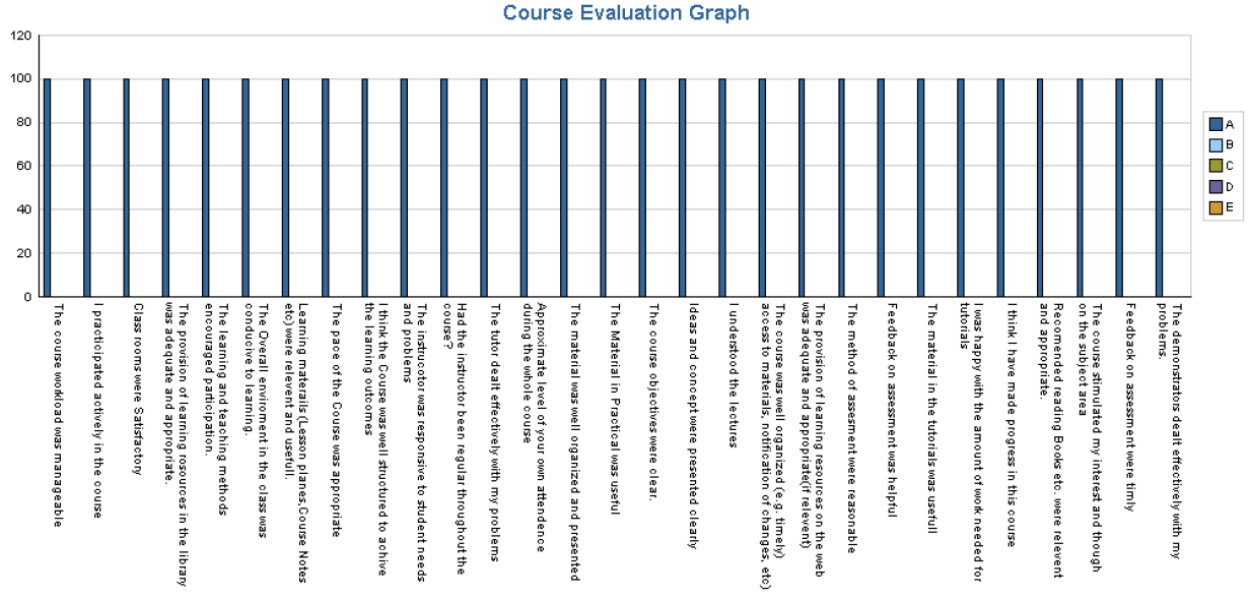

Fig: Course evaluation (Section-B) Manufacturing Engineering, Spring-15

General Comments

The course was very importing regarding mechanize farming. The instructor has great experience in this field and he taught this course very effectively.

PERFORMA-10 (Section-A)

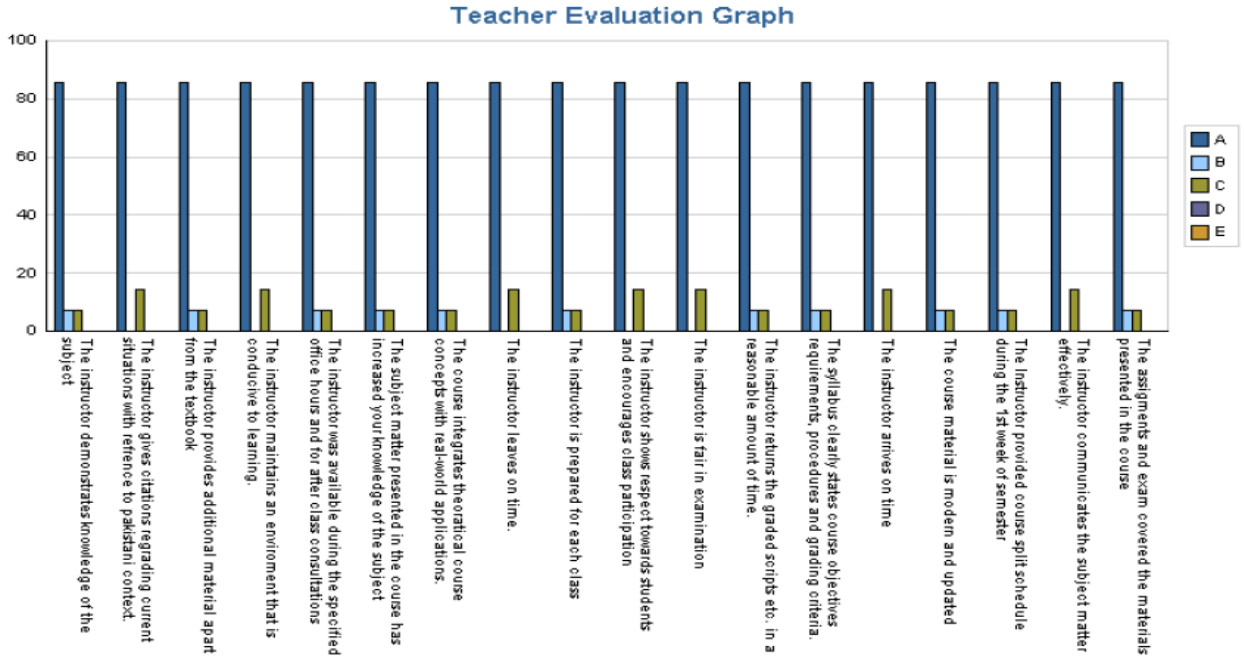

Fig: Teacher evaluation (Section-A) Manufacturing Engineering, Spring-15

PERFORMA-10 (Section-B)

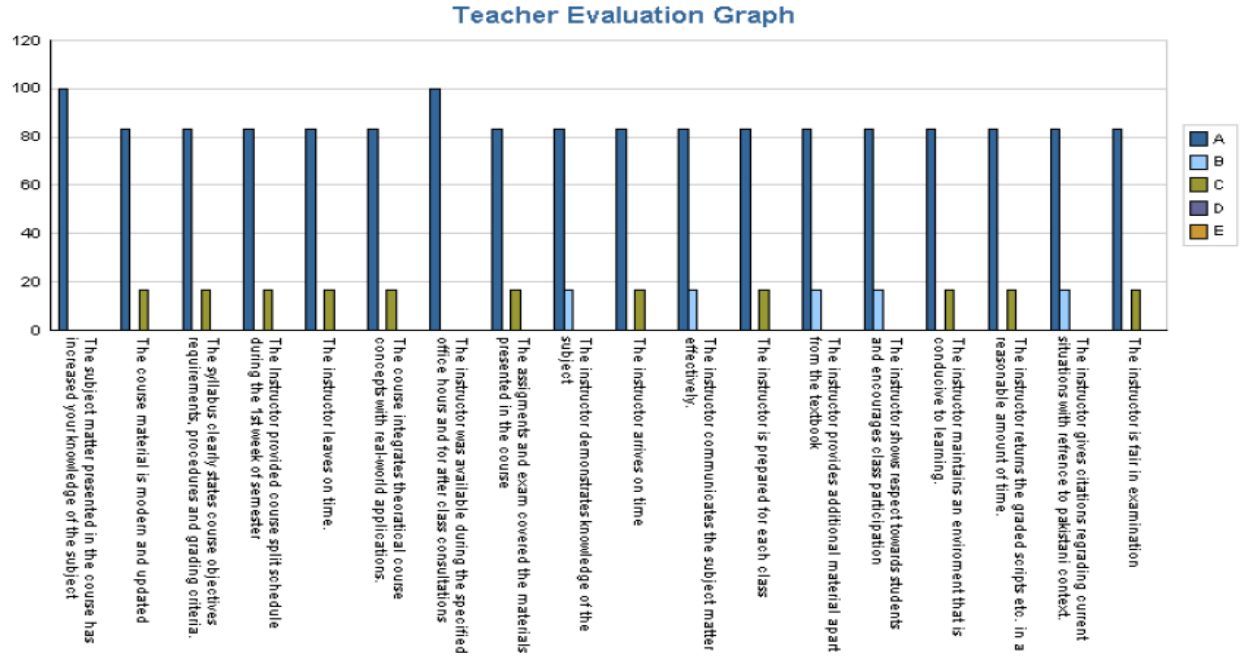

Fig: Teacher evaluation (Section-A) Manufacturing Engineering, Spring-15

Comments

The graph shows that the teacher was dedicated and conveys the knowledge effectively. He was punctual, friendly and gives respect to the students.

DR. M. UMAIR

Course: Engineering Mechanics

PERFORMA-1(Section-A)

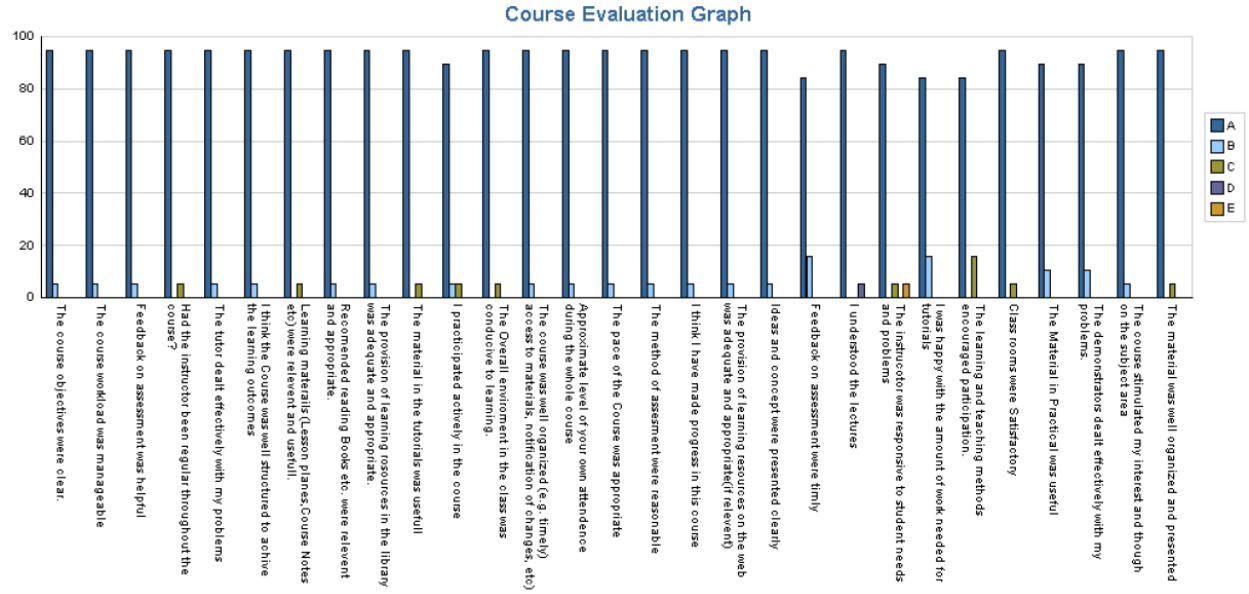

Fig: Course evaluation (Section-A) Engineering Mechanics, Spring-15

PERFORMA-1 (Section-B)

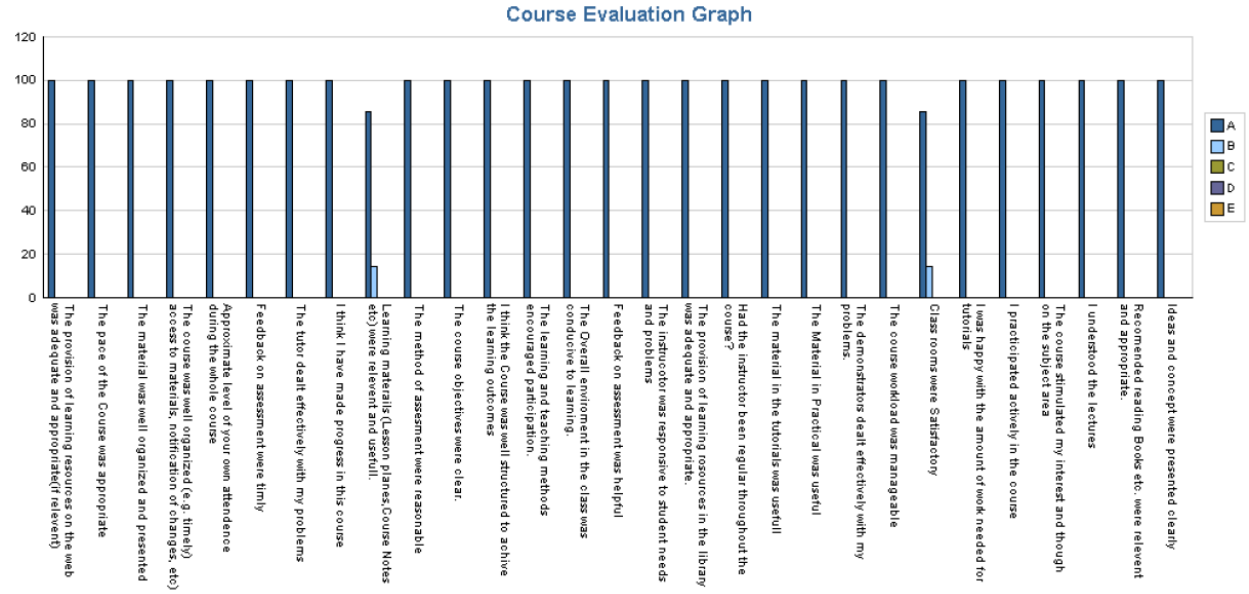

Fig: Course evaluation (Section-B) Engineering Mechanics, Spring-15

General Comments

The course was very interesting and provides imported knowledge and useful information regarding Engineering Mechanics.

PERFORMA-10(Section-A)

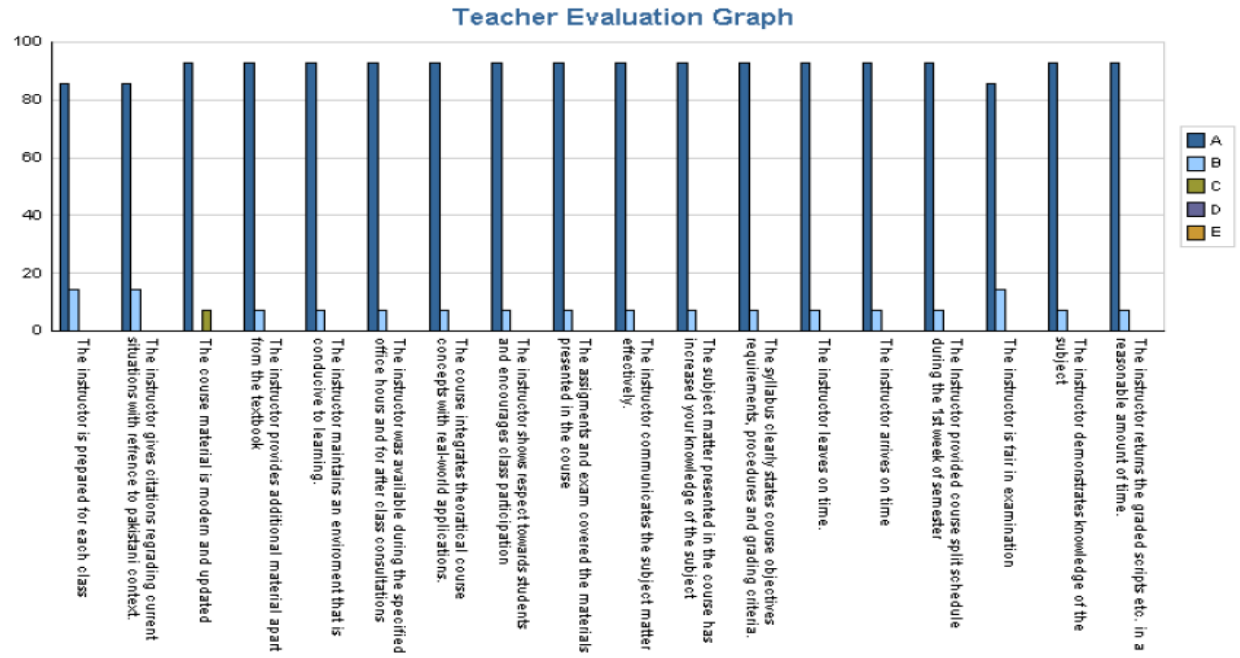

Fig: Teacher evaluation (Section-A) Engineering Mechanics, Spring-15

PERFORMA-10 (Section-B)

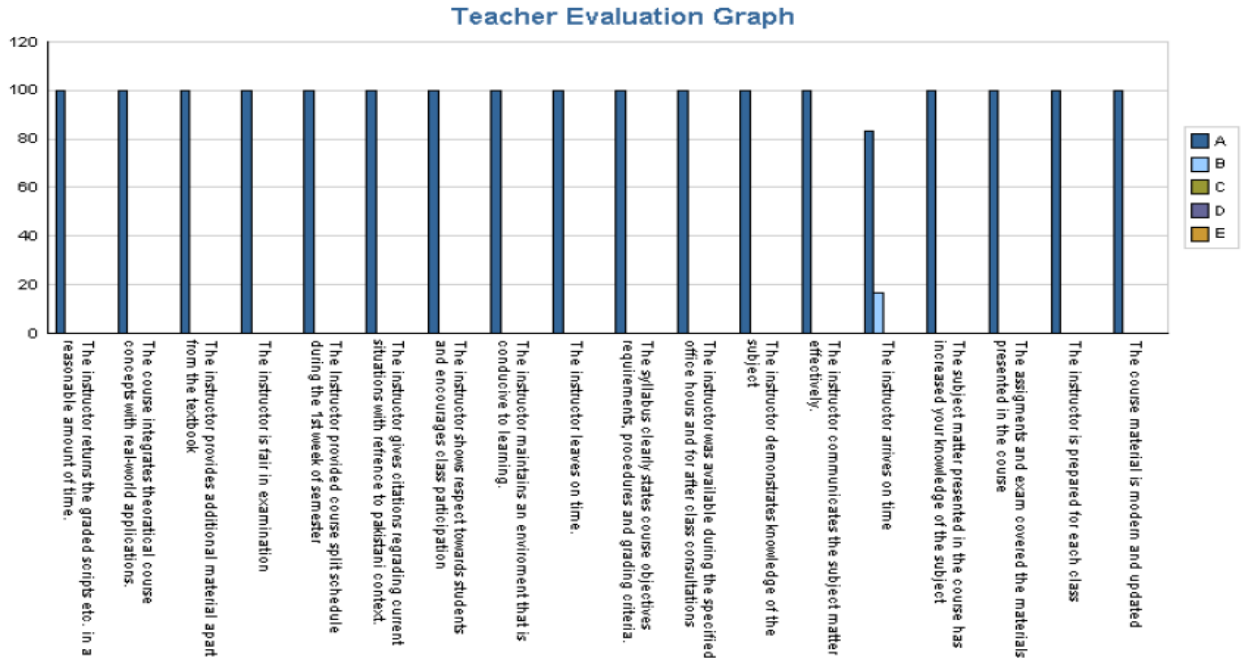

Fig: Teacher evaluation (Section-A) Engineering Mechanics, Spring-15

Comments

The teacher was dedicated and was able to teach this course in a good manner, with all attributes of preparation, communication skill, participation, including modern concepts, punctuality and behavior, etc.

ENGR. M. USMAN

Course: Computer Aided Design

PERFORMA-1 (Section-A)

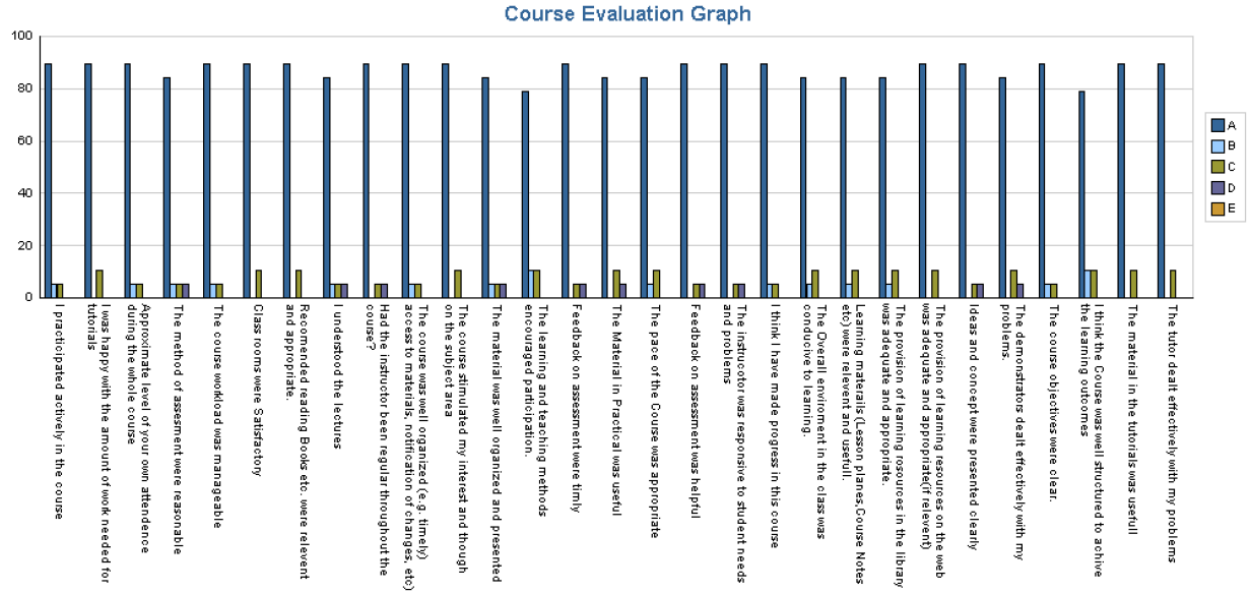

Fig: Course evaluation (Section-A) Computer Aided Design, Spring-15

PERFORMA-1 (Section-B)

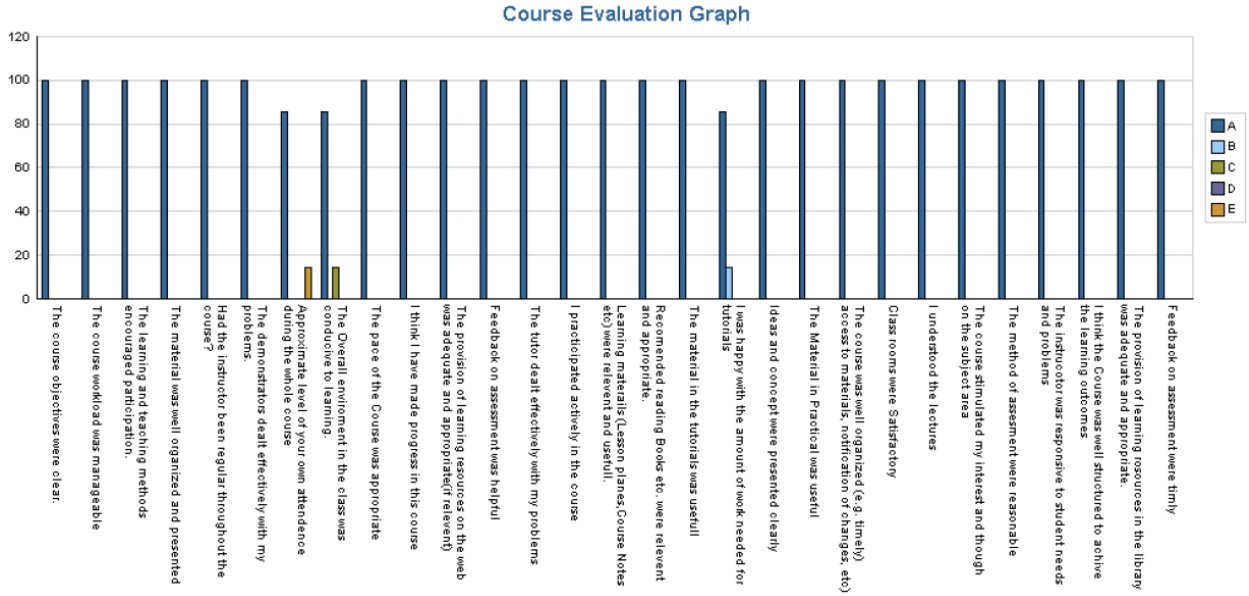

Fig: Course evaluation (Section-B) Computer Aided Design, Spring-15

General Comments

The course was important from engineering drawing point of view. The students leant modern knowledge of CAD.

PERFORMA-10 (Section-A)

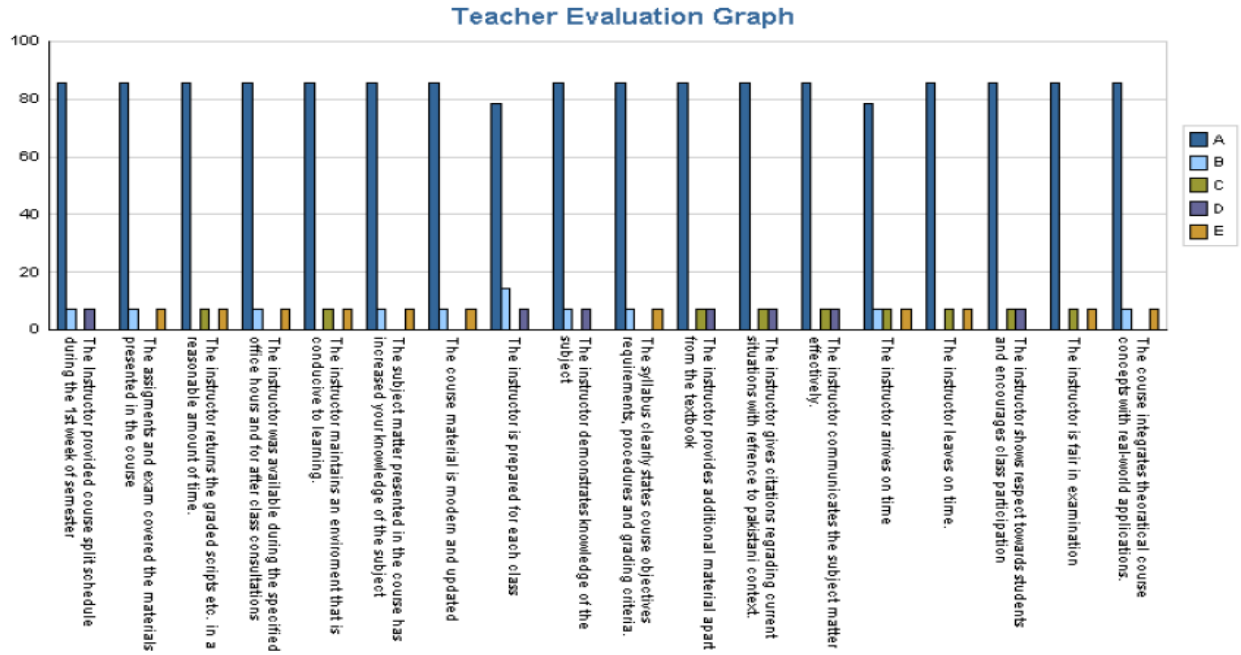

Fig: Teacher evaluation (Section-A) Computer Aided Design, Spring-15

PERFORMA-10 (Section-B)

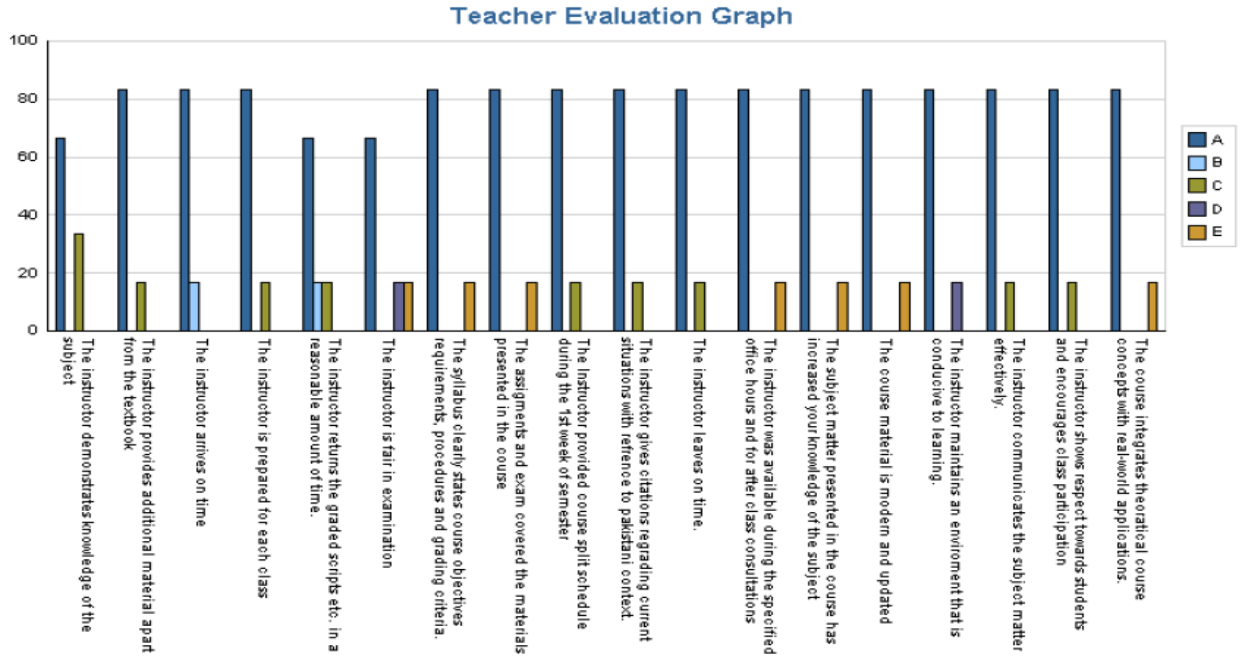

Fig: Teacher evaluation (Section-B) Computer Aided Design, Spring-15

Comments

The graph shows that the teacher was dedicated and was able to teach this course in a good manner, with all attributes of preparation, communication skill.

B.SC AGRI. ENGG. 4th SEMESTER

PROF. DR. M. YASIN

Course: Farm Power

PERFORMA-1(Section-A)

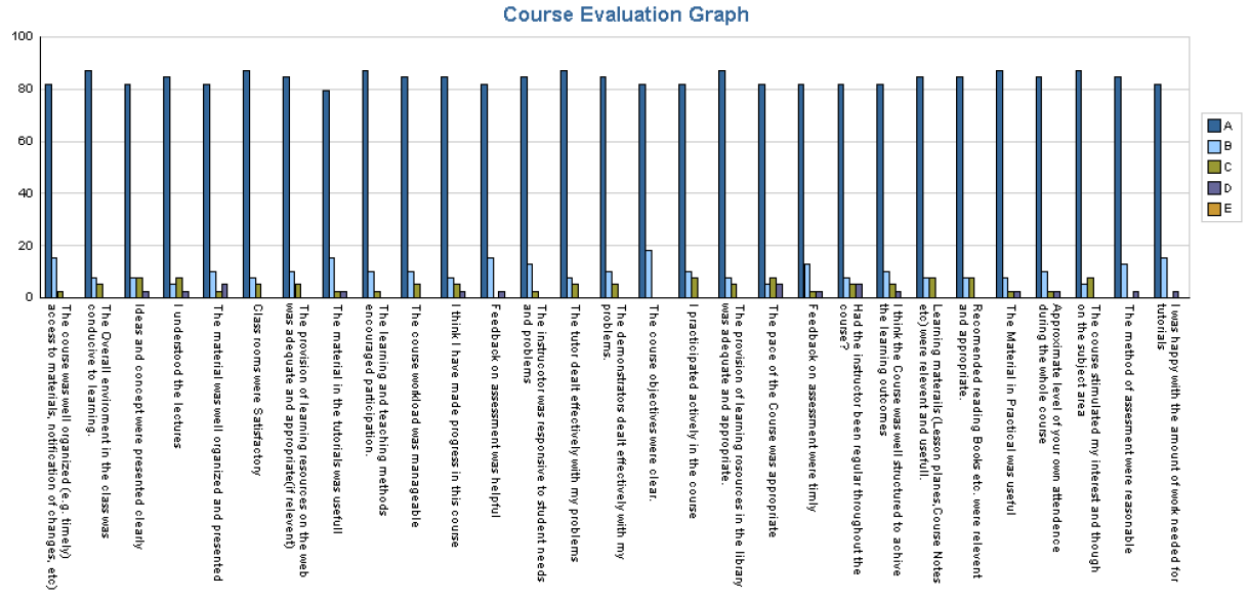

Fig: Course evaluation (Section-A) Farm Power, Spring-15

PERFORMA-1 (Section-B)

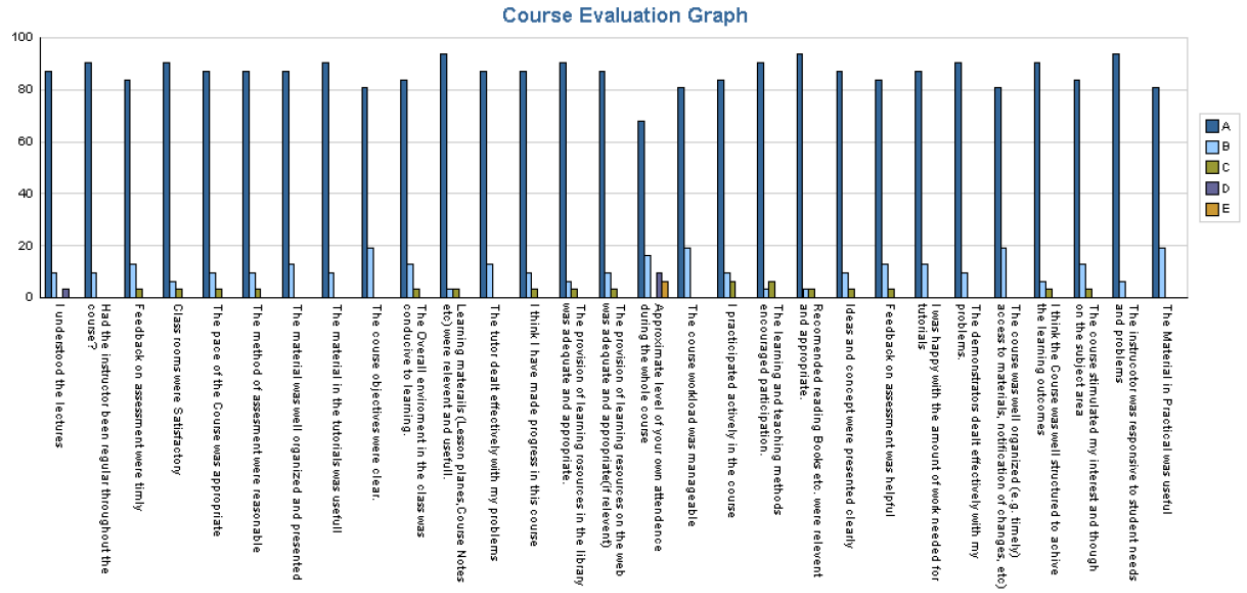

Fig: Course evaluation (Section-B) Farm Power, Spring-15

General Comments

The course was very importing regarding Farm Power. The instructor has great experience in this field and he taught this course very effectively. The students learnt useful knowledge and were satisfied with course objectives and contents.

PERFORMA-10 (Section-A)

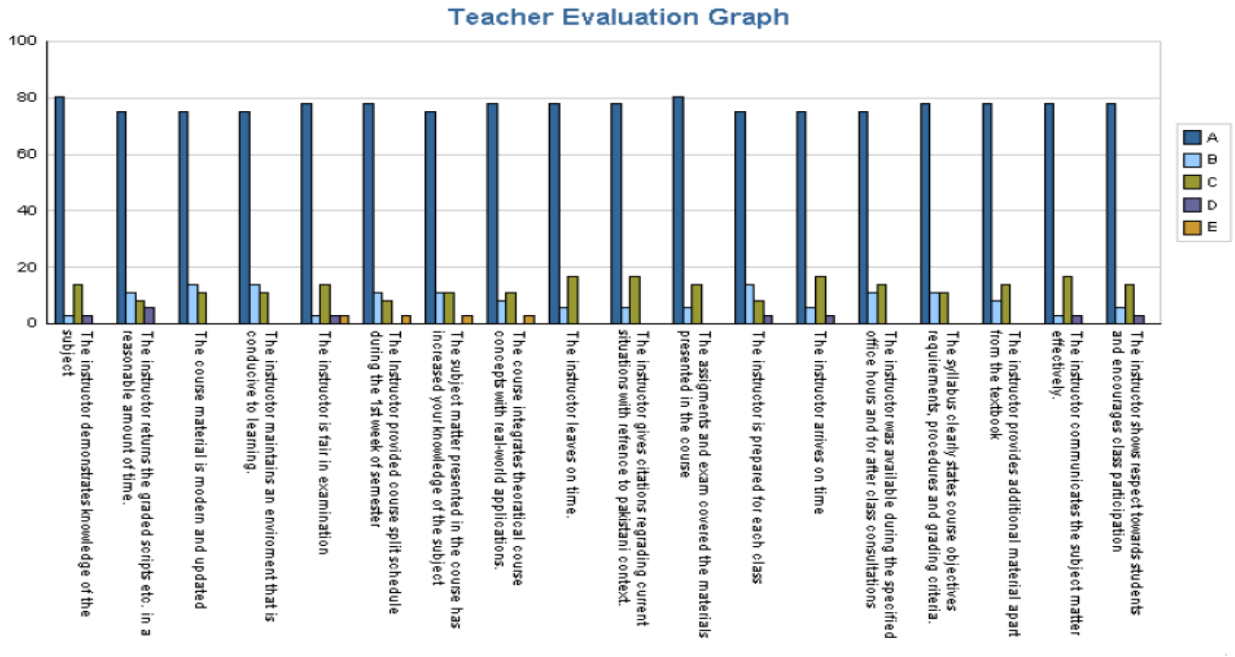

Fig: Teacher evaluation (Section-A) Farm Power, Spring-15

PERFORMA-10 (Section-B)

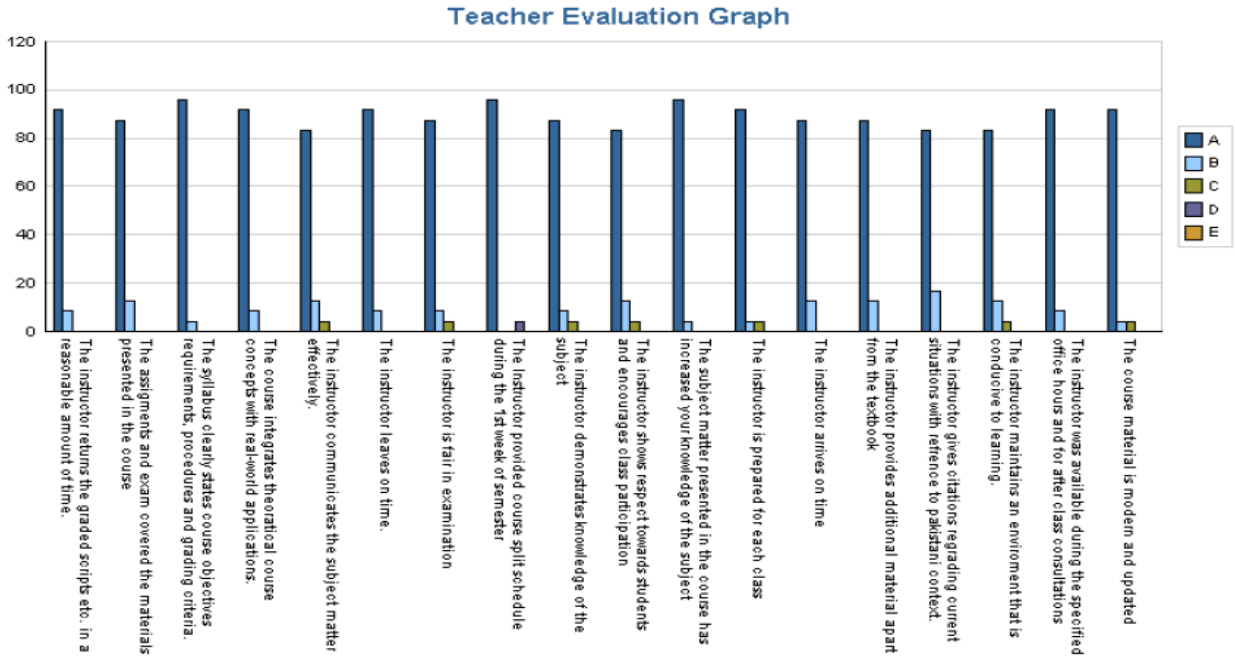

Fig: Teacher evaluation (Section-B) Farm Power, Spring-15

Comments

The graph shows that the teacher was dedicated and conveys the knowledge effectively. He was punctual, friendly and gives respect to the students.

DR. J. K. SIAL

Course: Landscape Engineering

PERFORMA-1(Section-A)

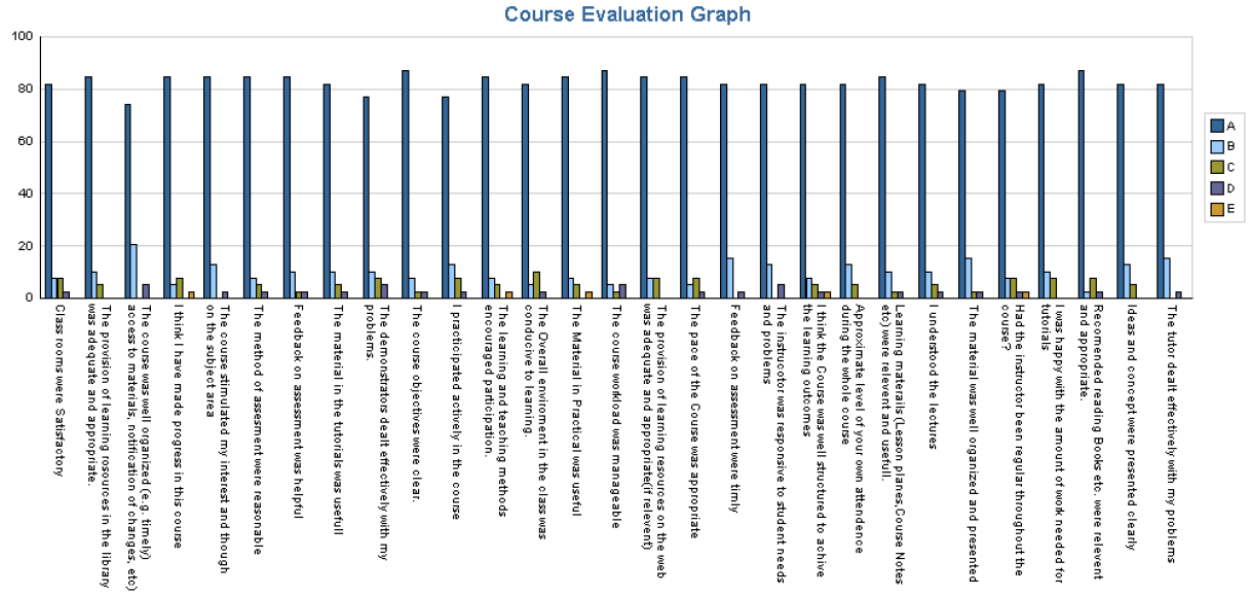

Fig: Course evaluation (Section-A) Landscape Engineering, Spring-15

PERFORMA-1 (Section-B)

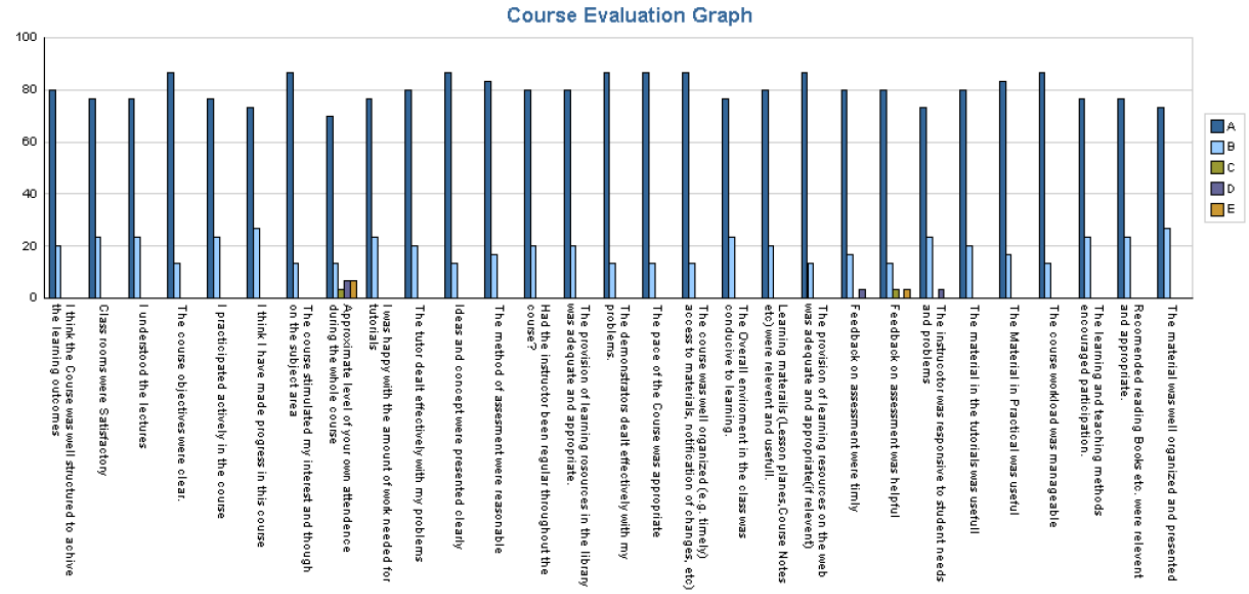

Fig: Course evaluation (Section-B) Landscape Engineering, Spring-15

General Comments

The course was interesting regarding engineering used for landscaping. The students learnt useful knowledge and were satisfied with course objectives and contents.

PERFORMA-10 (Section-A)

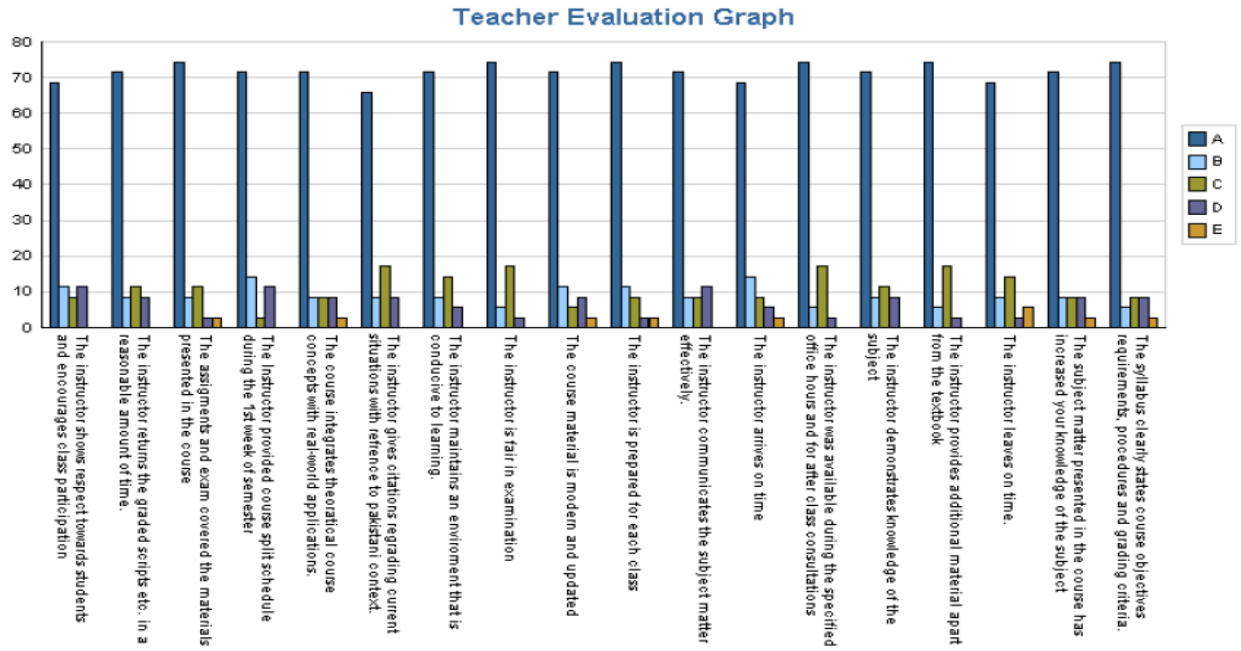

Fig: Teacher evaluation (Section-A) Landscape Engineering, Spring-15

PERFORMA-10 (Section-B)

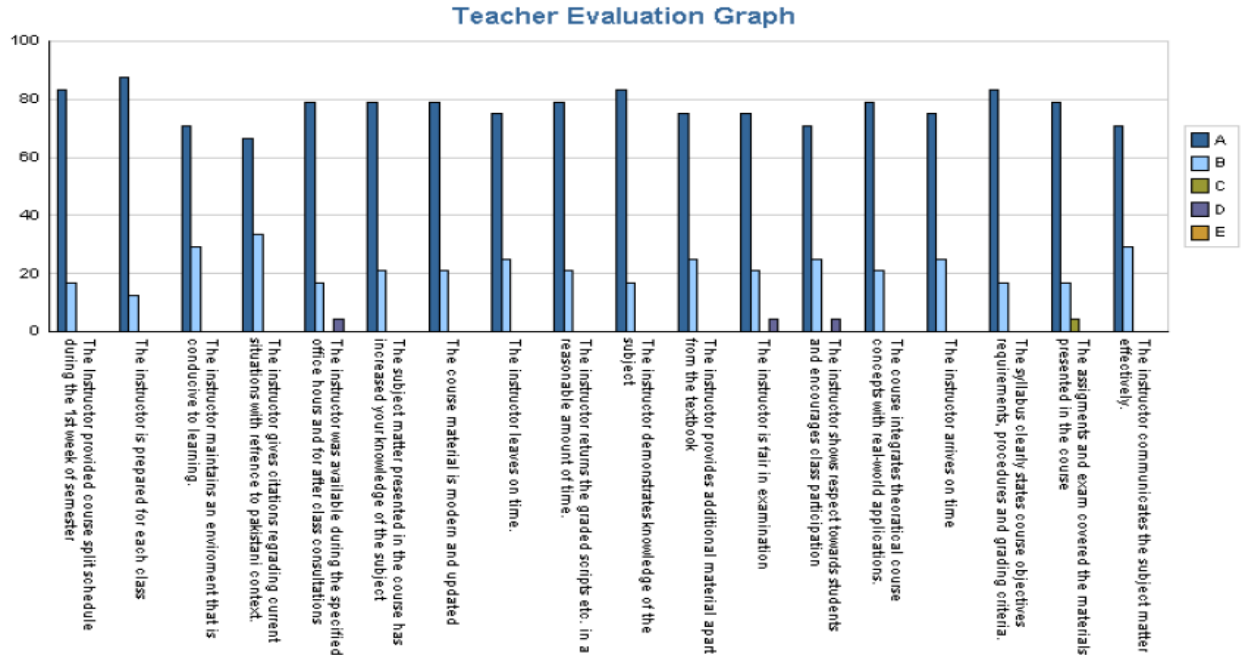

Fig: Teacher evaluation (Section-B) Landscape Engineering, Spring-15

Comments

The graph shows that the teacher was dedicated and conveys the knowledge effectively. He was punctual, friendly and gives respect to the students.

DR. J. K. SIAL

Course: Farm Structure & Materials

PERFORMA-1(Section-A)

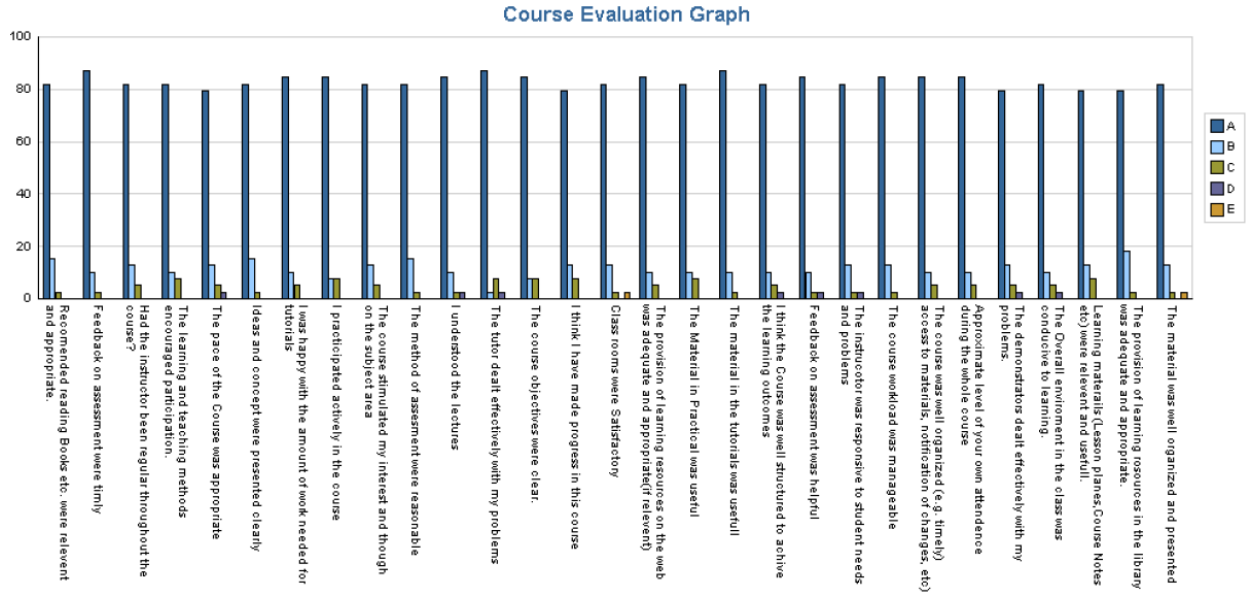

Fig: Course evaluation (Section-A) Farm Structure & Materials, Spring-15

PERFORMA-1 (Section-B)

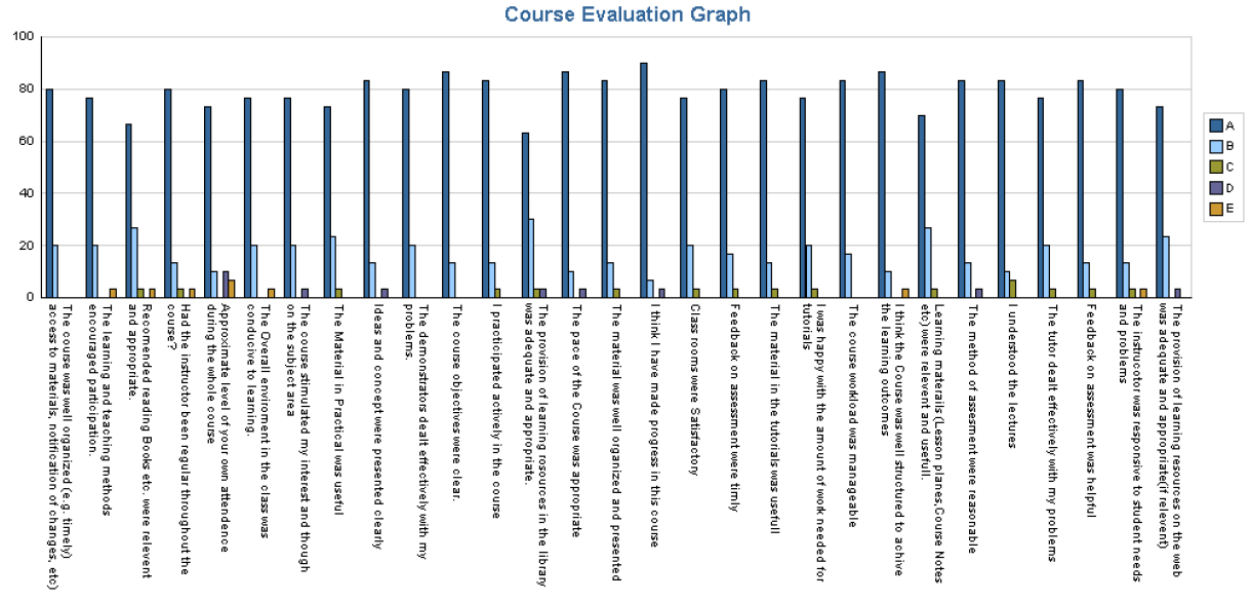

Fig: Course evaluation (Section-B) Farm Structure & Materials, Spring-15

General Comments

The course was very importing regarding Farm Structures and Materials. The students learnt useful knowledge and majority of the students were satisfied with course objectives and contents.

PERFORMA-10 (Section-A)

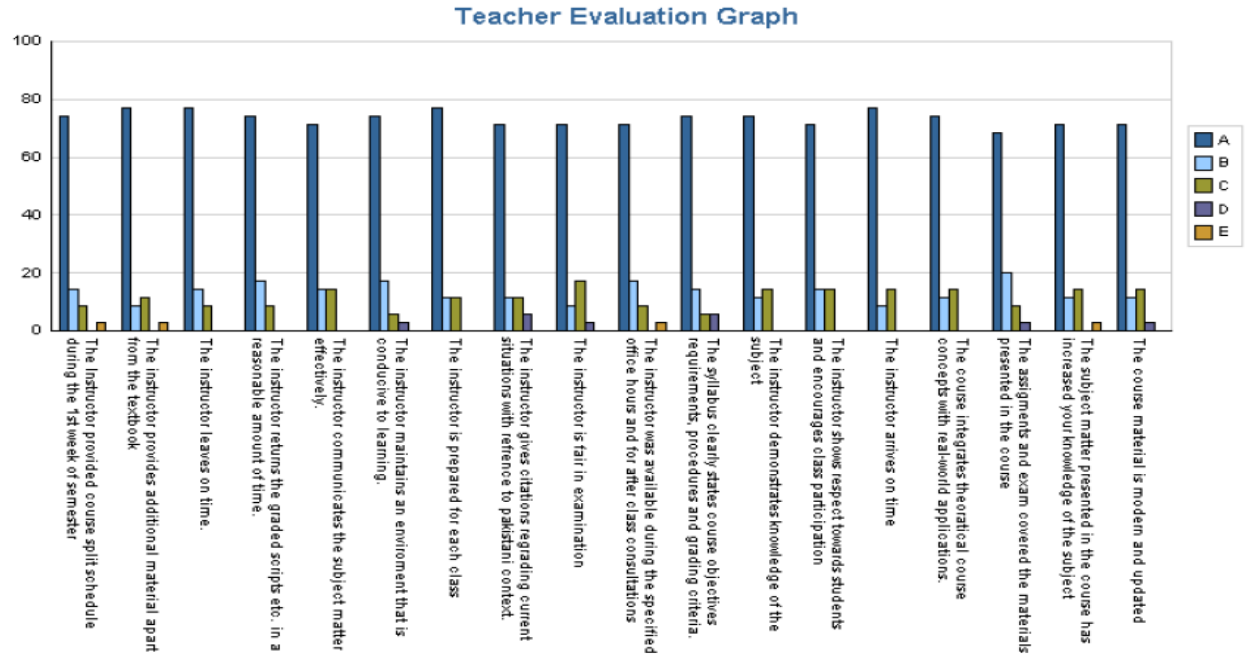

Fig: Teacher evaluation (Section-A) Farm Structure & Materials, Spring-15

PERFORMA-10 (Section-B)

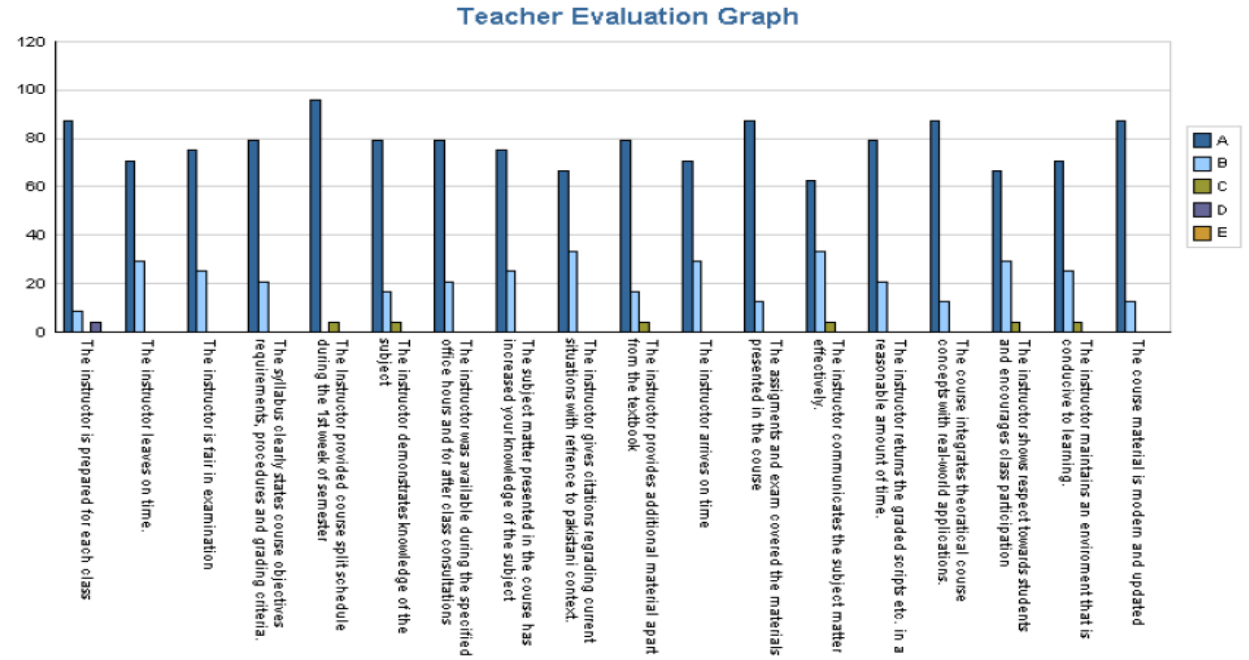

Fig: Teacher evaluation (Section-B) Farm Structure & Materials, Spring-15

Comments

The graph shows that the teacher was dedicated and conveys the knowledge effectively. He was friendly and gives respect to the students.

DR. M. UMAIR

Course: Mechanics of Materials

PERFORMA-1 (Section-A)

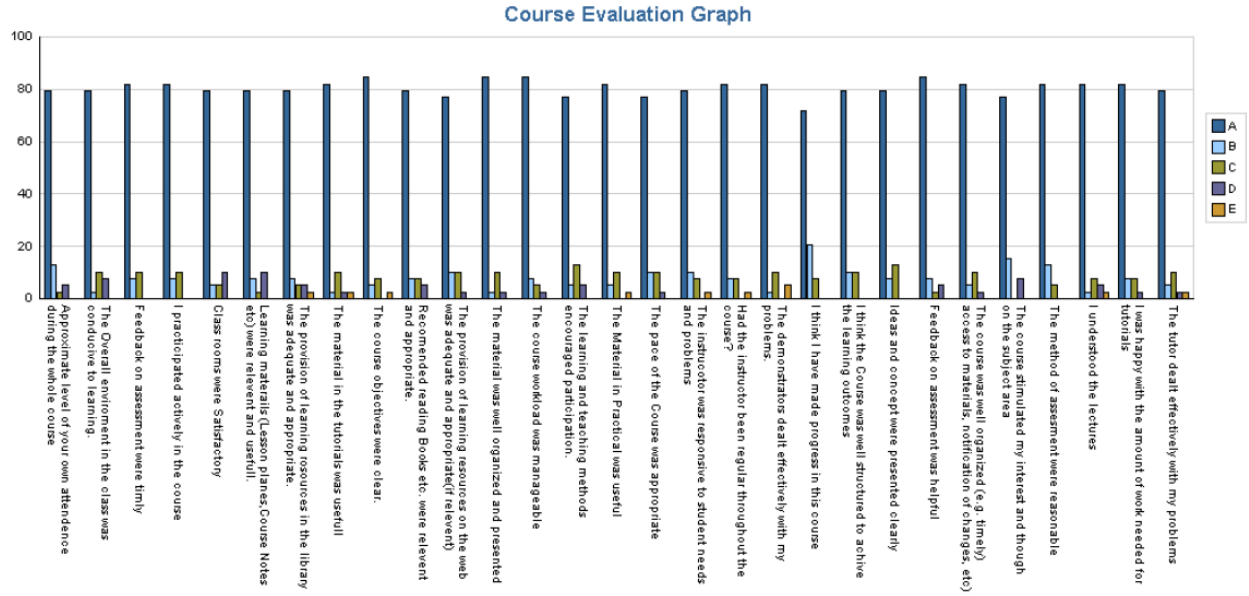

Fig: Course evaluation (Section-A) Mechanics of Materials, Spring-15

PERFORMA-1 (Section-B)

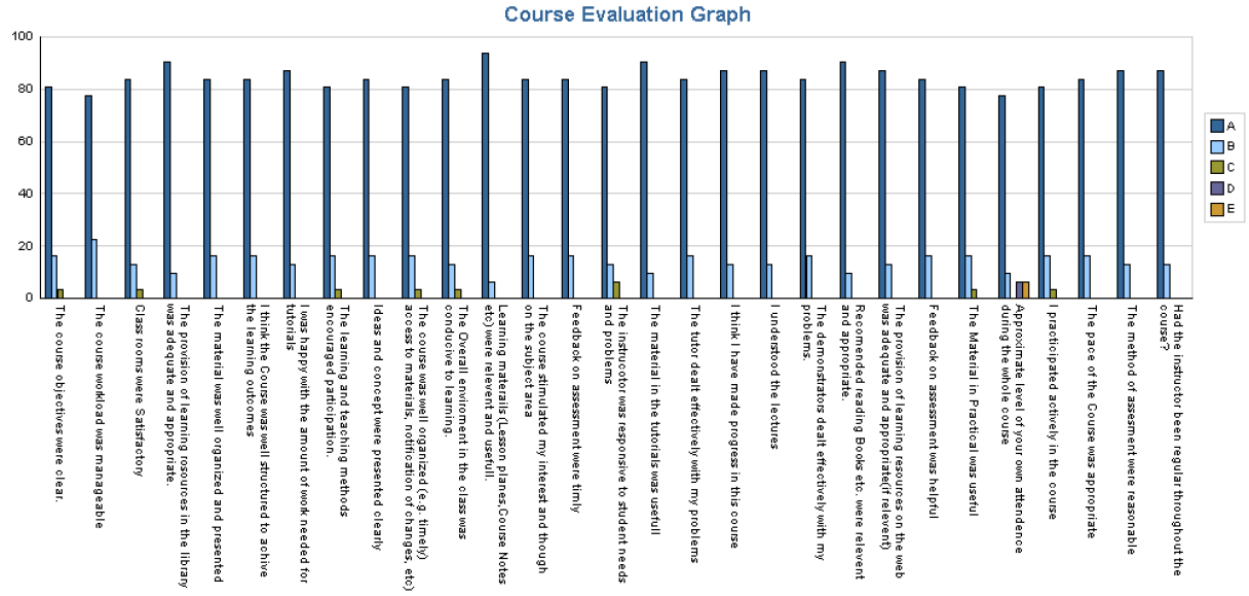

Fig: Course evaluation (Section-B) Mechanics of Materials, Spring-15

General Comments

The course was conceptual and provides imported knowledge strength of materials and structures. Students were satisfied with course objectives.

PERFORMA-10 (Section-A)

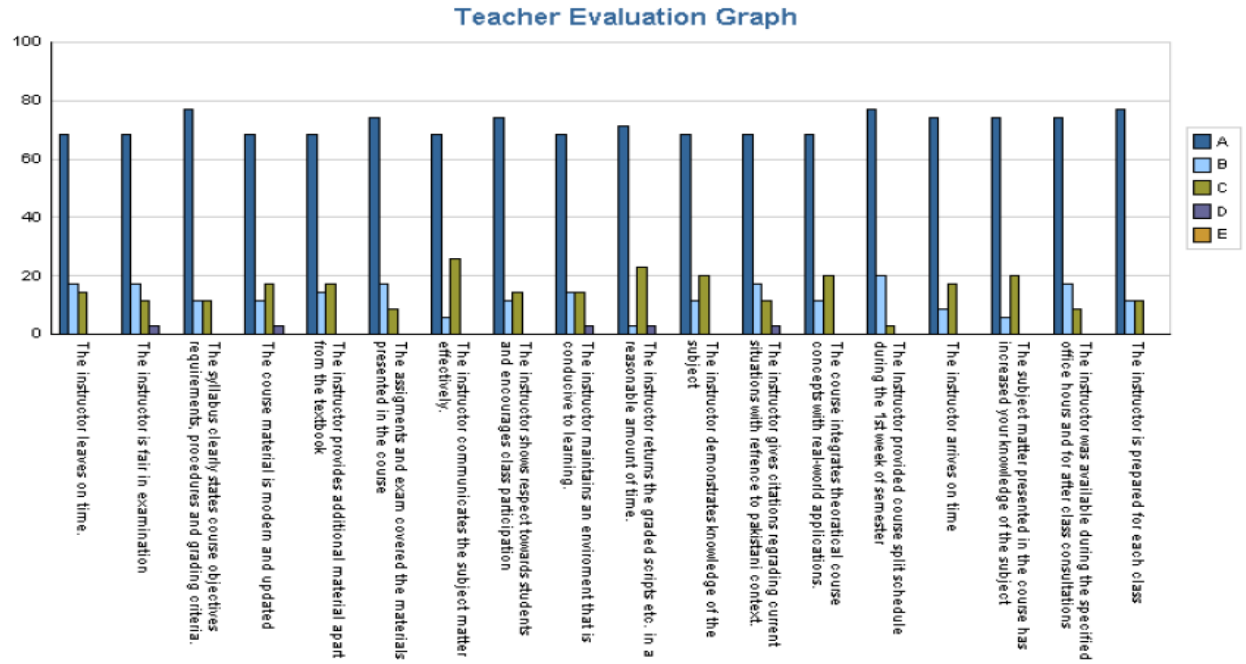

Fig: Teacher evaluation (Section-A) Mechanics of Materials, Spring-15

PERFORMA-10 (Section-B)

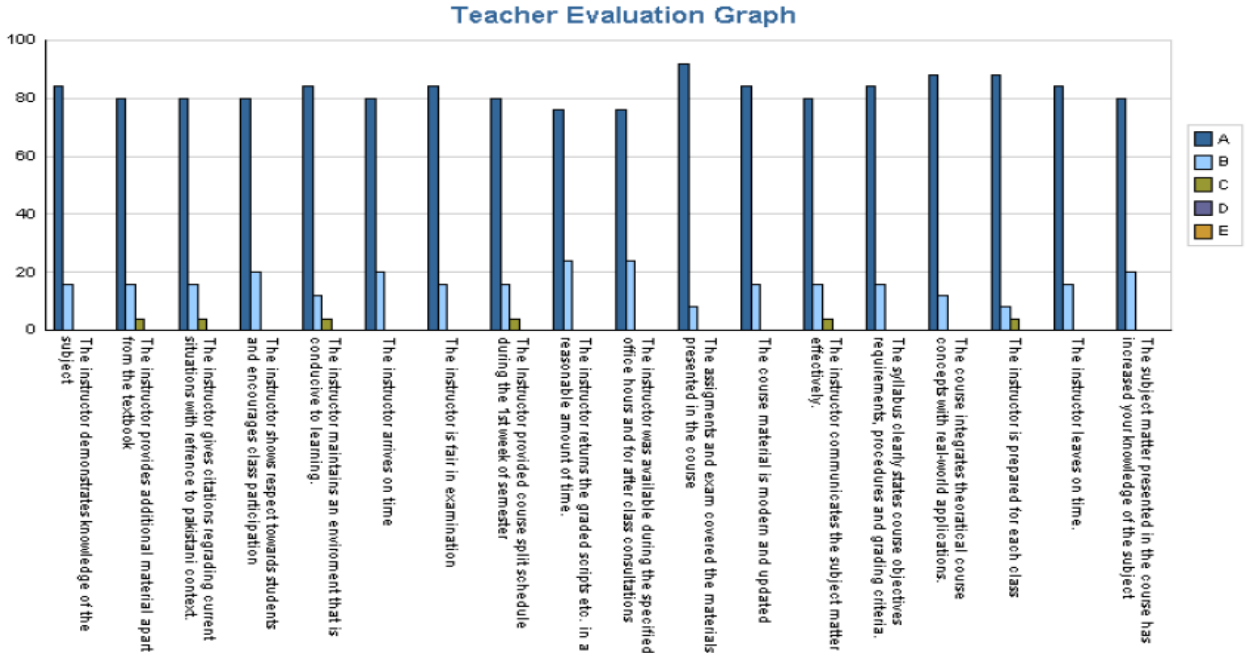

Fig: Teacher evaluation (Section-B) Mechanics of Materials, Spring-15

Comments/suggestions

The teacher was dedicated and conveys the knowledge effectively. Give respect to students.

ENGR. M. USMAN

Course: Soil Mechanics

PERFORMA-1 (Section-A)

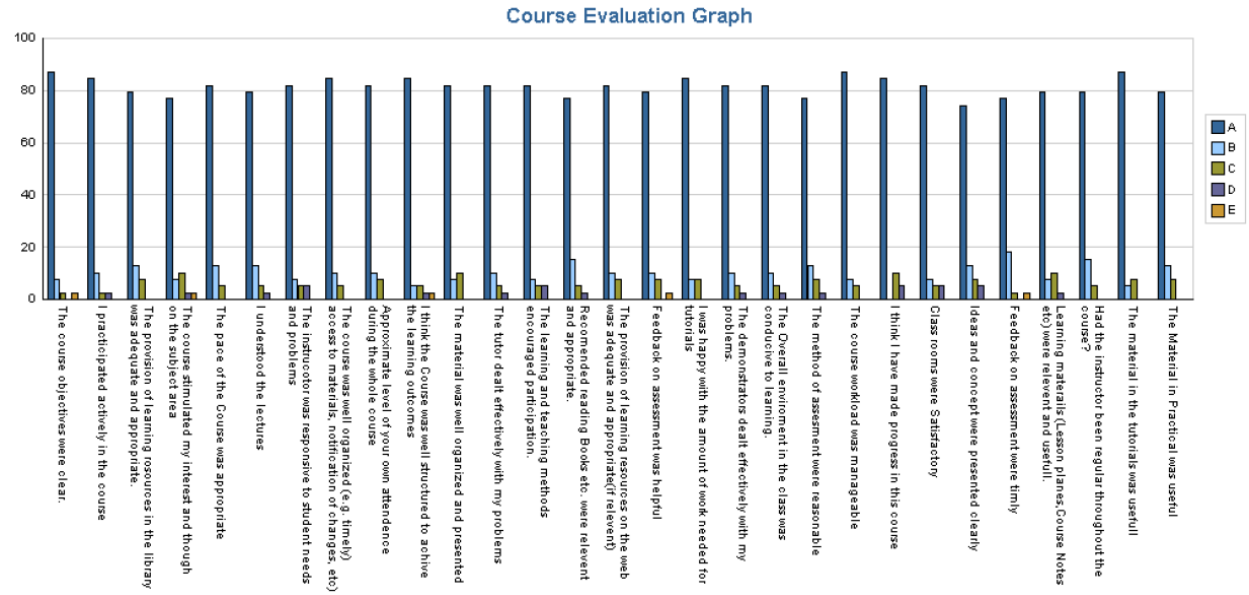

Fig: Course evaluation (Section-A) Soil Mechanics, Spring-15

PERFORMA-1 (Section-B)

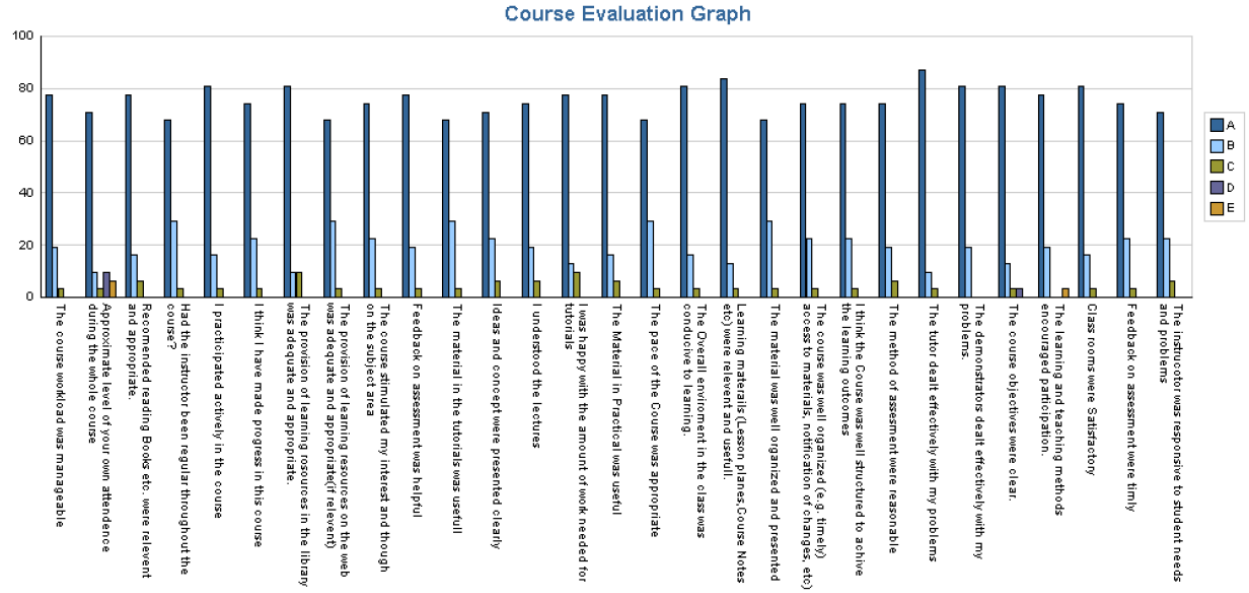

Fig: Course evaluation (Section-B) Soil Mechanics, Spring-15

General Comments

The course was important in the sense of mechanics used when dealing with soil. The students leant modern knowledge from this course.

PERFORMA-10 (Section-A)

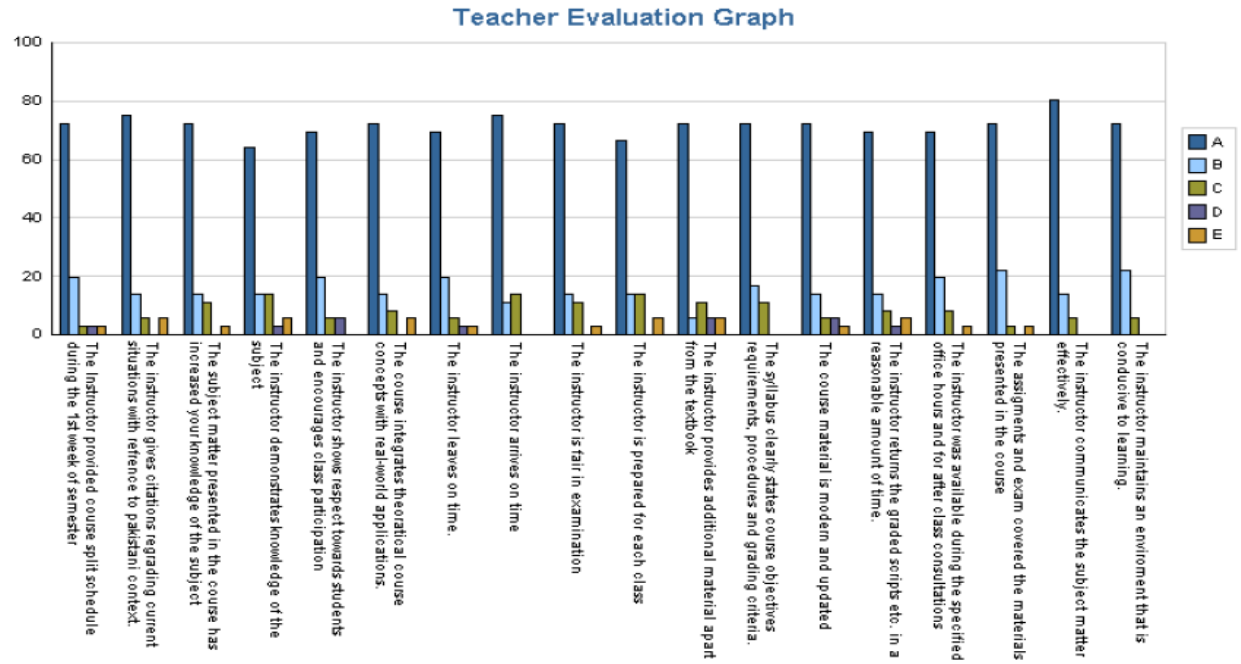

Fig: Teacher evaluation (Section-A) Soil Mechanics, Spring-15

PERFORMA-10 (Section-B)

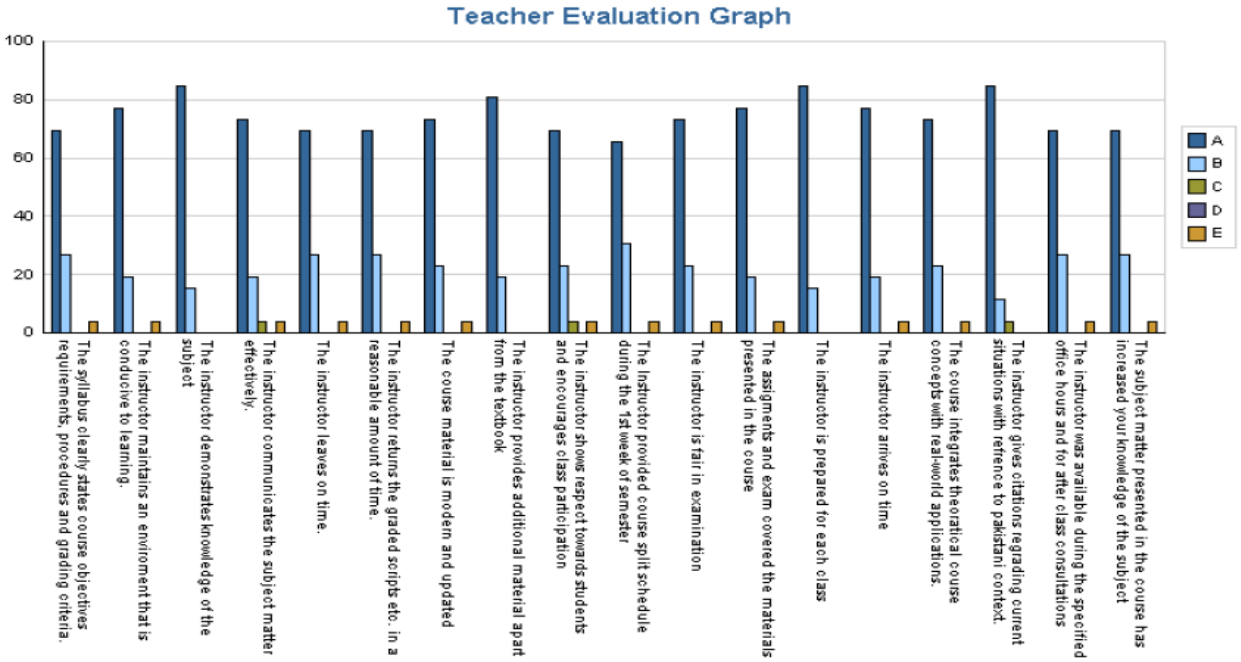

Fig: Teacher evaluation (Section-B) Soil Mechanics, Spring-15

General Comments/Suggestions

The graph shows that the teacher was committed and tried his best to convey the course knowledge.

Fall-15			
Course no.	**Credit hour**	**Title**	**Teacher**
B.Sc Agri. Engg. 1st semester			
LWCE-301	3(2–2)	Fluid Mechanics	Ms. Tehmena Rasheed
SEE-301	2(1 –2)	Engineering Drawing & Graphics	Engr. M. Usman
FMPE-301	3(2 –2)	Metallurgy and Workshop Practices	Dr. M. Yasin
ENG-301	3(3 –0)	English Composition & Comprehension	Ms. Gul-e-Shaheen
IS-301	2(2 –0)	Islamic Studies	Dr. Munir Ahmed
MATH-301	3(3 –0)	Linear Algebra & Calculus	Ms. Beenish
PHY-301	3(2 –2)	Applied Physics	Anees ur Rahman
B.Sc Agri. Engg. 3rd semester			
LWCE-401	3(2–1)	Engineering Hydrology	M. Usman
SEE-401	4(2–2)	Surveying & Leveling	Dr. M. Umair
FMPE-401	3(2–1)	Engineering Thermodynamics	Ms. Tehmena Rasheed
RS-401	2(2 –0)	Sociology	Mr. Shabaz Ahmad
MATH-401	3(3–0)	Differential equation, power series, Laplace transform	Ms. Beenish
CS-401	3(2–1)	Computer Program and application	Ms Saira Anwer
B.Sc Agri. Engg. 5th semester			
SEE-501	3(2–1)	Fundamentals of Environmental Engineering	Dr. J. K. Sial
FMPE-501	3(2–1)	Instrumentation & Measurements	Mr. Khalid Waqas
ENG-501	3 (2–1)	Communication & Presentation Skills	Ms. Gul-e-Shaheen
STAT-501	3 (3–0)	Statistics & Probability	Dr. Amna Nazir
LWCE-501	3 (2–1)	Irrigation Engineering	Engr. M. Usman
FMPE-505	3 (2–1)	Boiler Engineering and Power Plants	Dr. M. Umair

B.SC AGRI. ENGG. 1ST SEMESTER

PROF. DR. M. YASIN

Course: Metallurgy and Workshop Practices

PERFORMA-1 (Section-A)

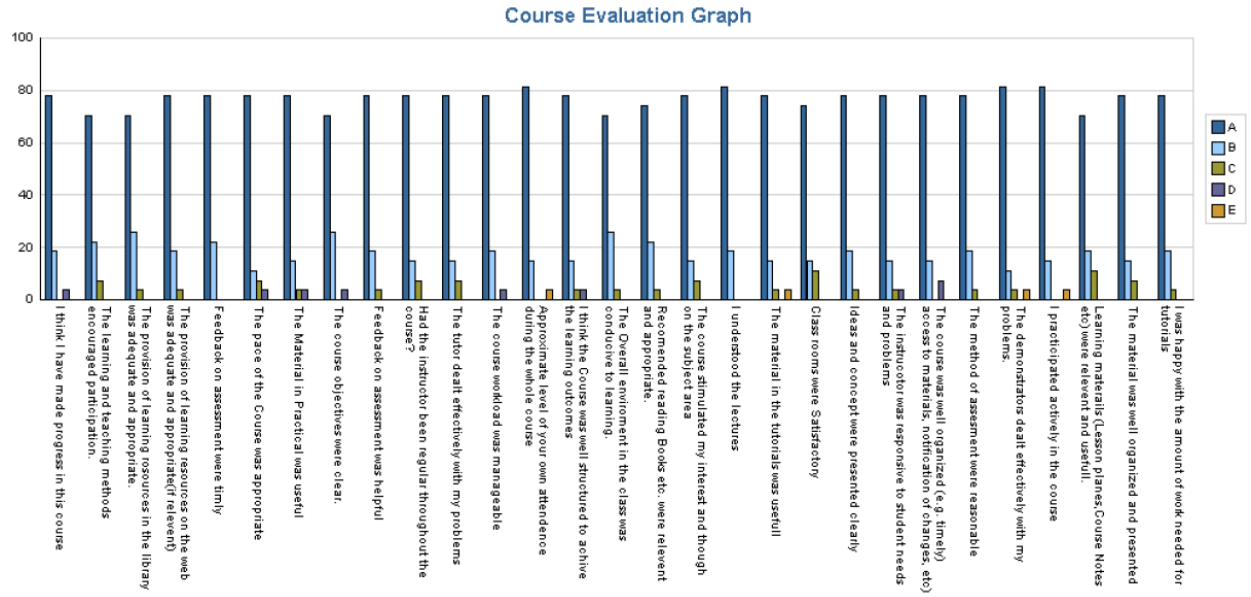

Fig: Course evaluation (Section-A) Metallurgy and Workshop Practices, Fall-15

PERFORMA-1 (Section-B)

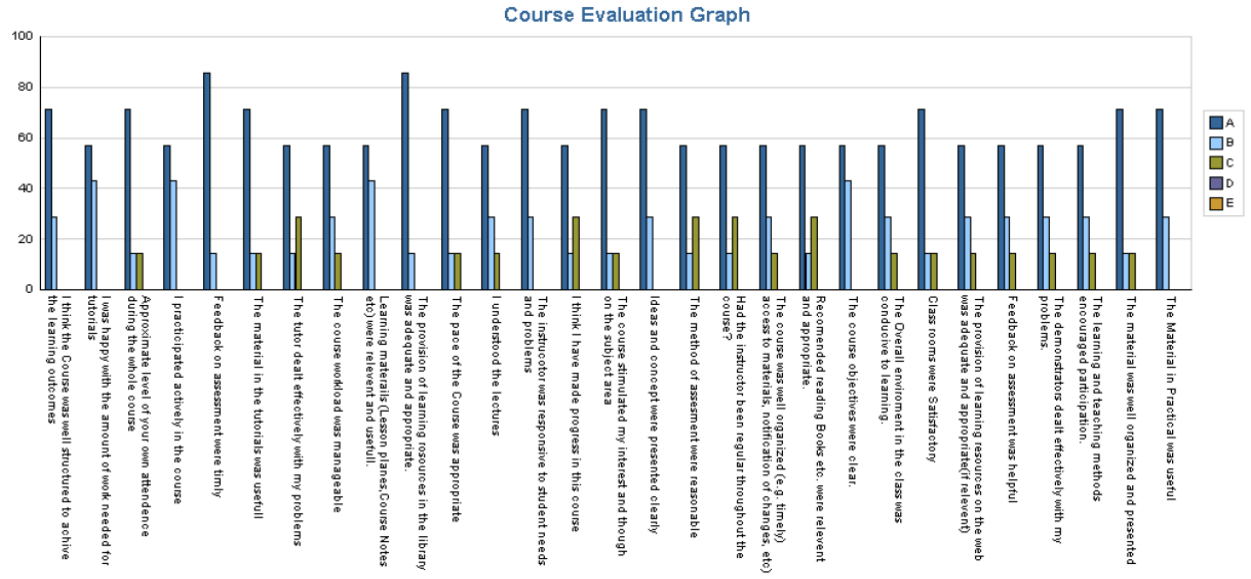

Fig: Course evaluation (Section-B) Metallurgy and Workshop Practices, Fall-15

General Comments

The course provides important knowledge of workshop practices machine use.

PERFORMA-10 (Section-A)

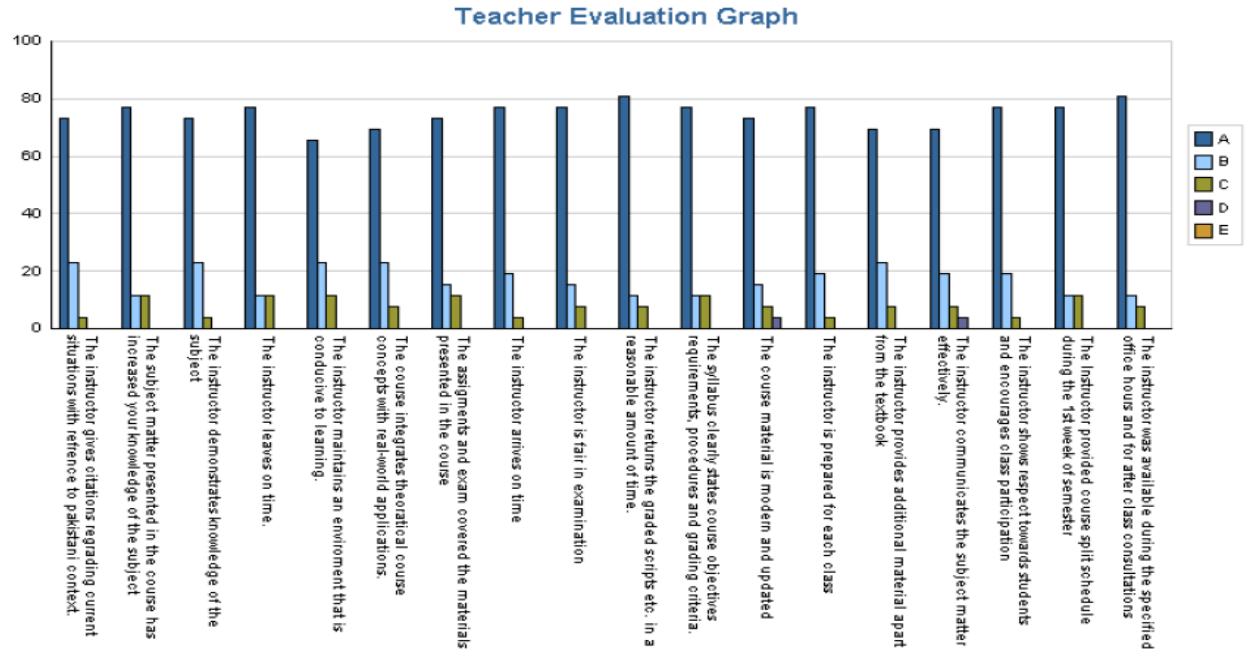

Fig: Teacher evaluation (Section-B) Metallurgy and Workshop Practices, Fall-15

PERFORMA-10 (Section-B)

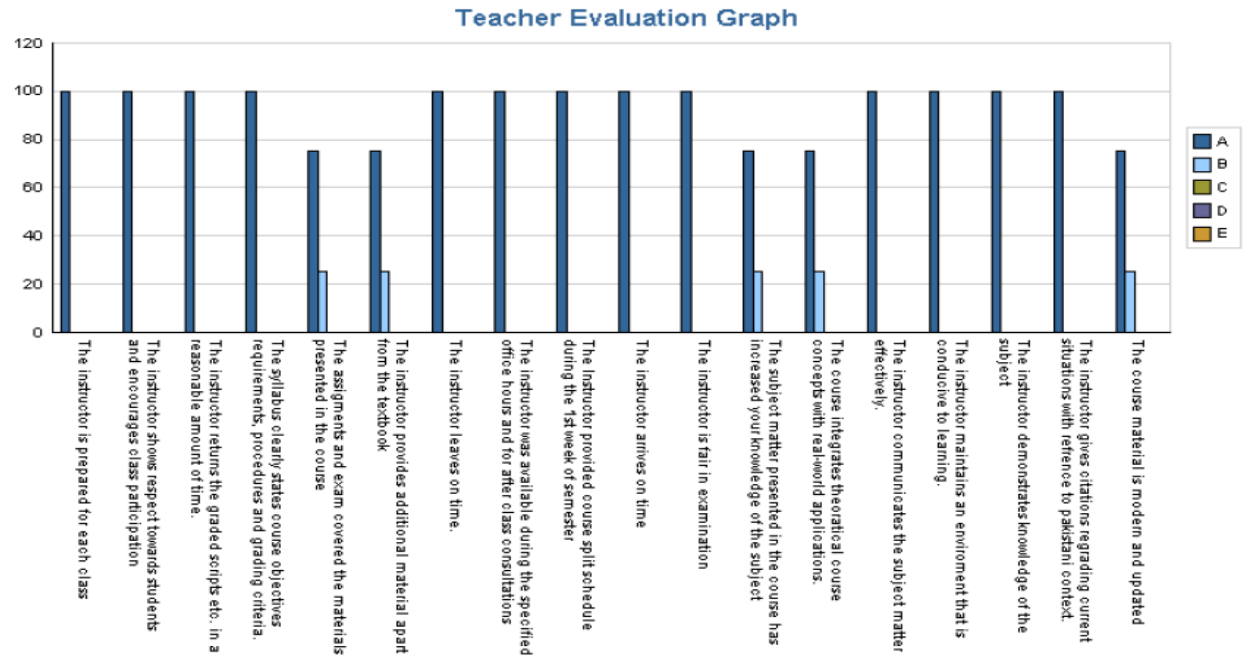

Fig: Teacher evaluation (Section-B) Metallurgy and Workshop Practices, Fall-15

Comments

The course was interesting and instructor effectively taught the course.

ENGR. M. USMAN

Course: Engineering Drawing & Graphics

PERFORMA-1 (Section-A)

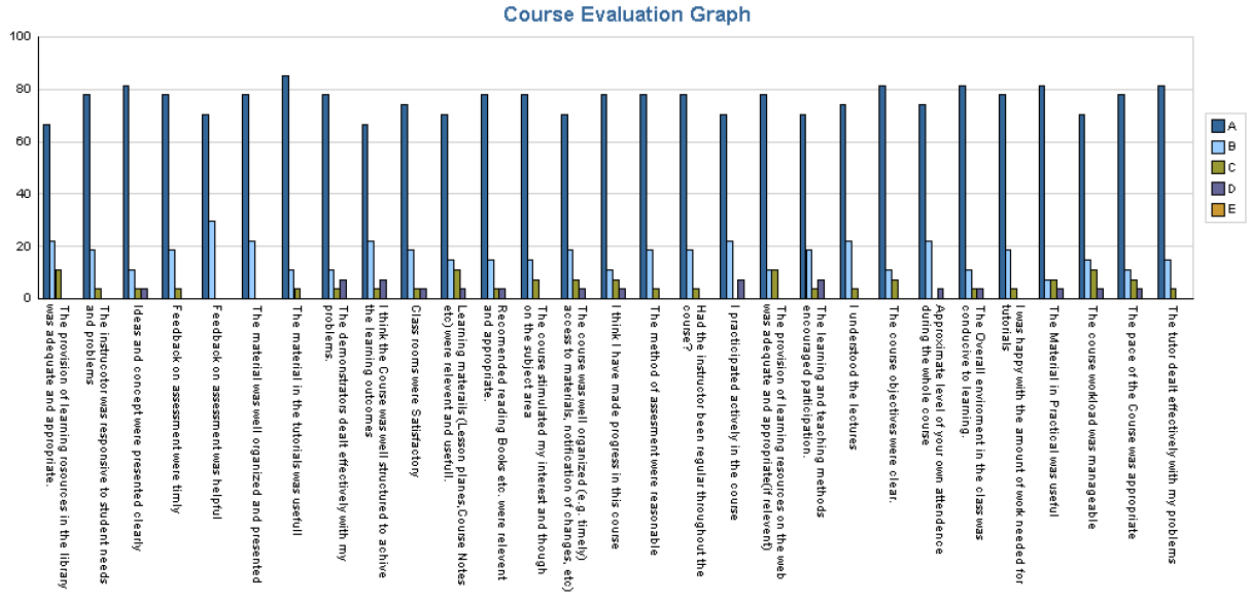

Fig: Course evaluation (Section-A) Engineering Drawing & Graphics, Fall-15

PERFORMA-1 (Section-B)

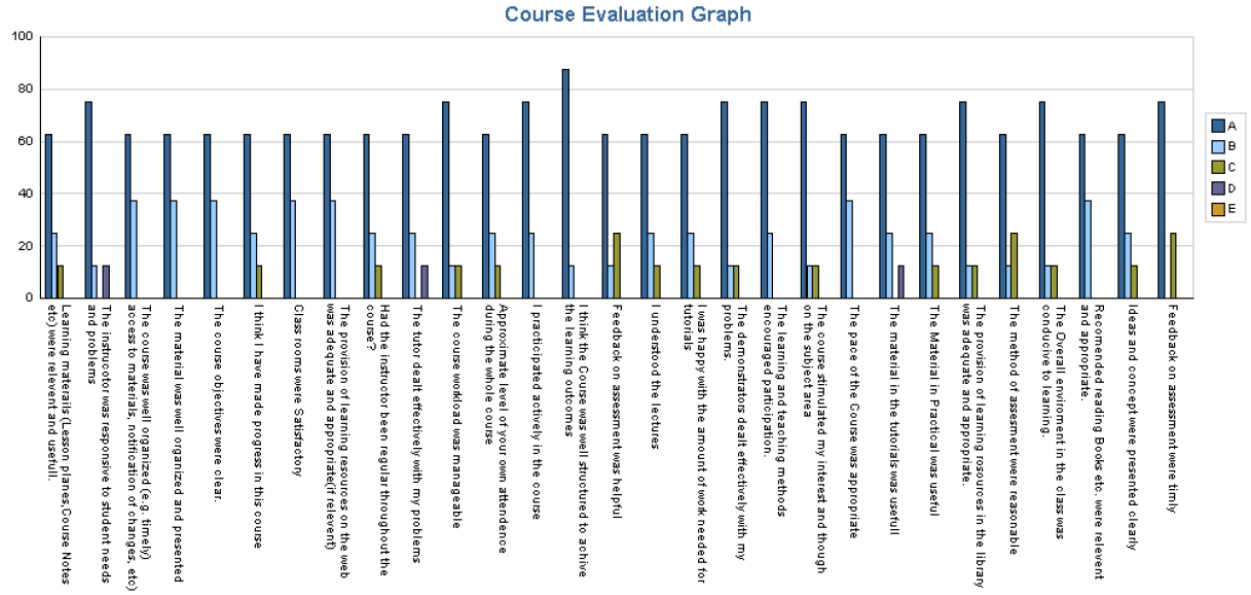

Fig: Course evaluation (Section-B) Engineering Drawing & Graphics, Fall-15

Comments

The course was interesting and provides the valuable knowledge about CAD and drawing. Students were satisfied with course contents of the course.

PERFORMA-10 (Section-A)

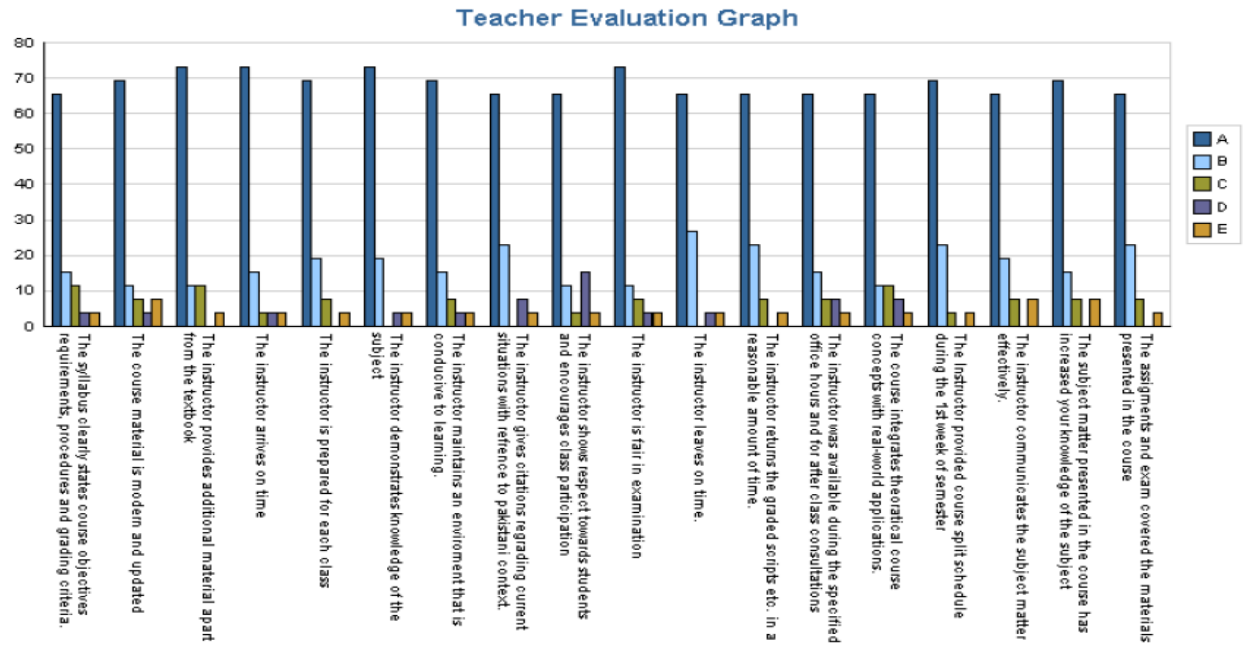

Fig: Teacher evaluation (Section-A) Engineering Drawing & Graphics, Fall-15

PERFORMA-10 (Section-B)

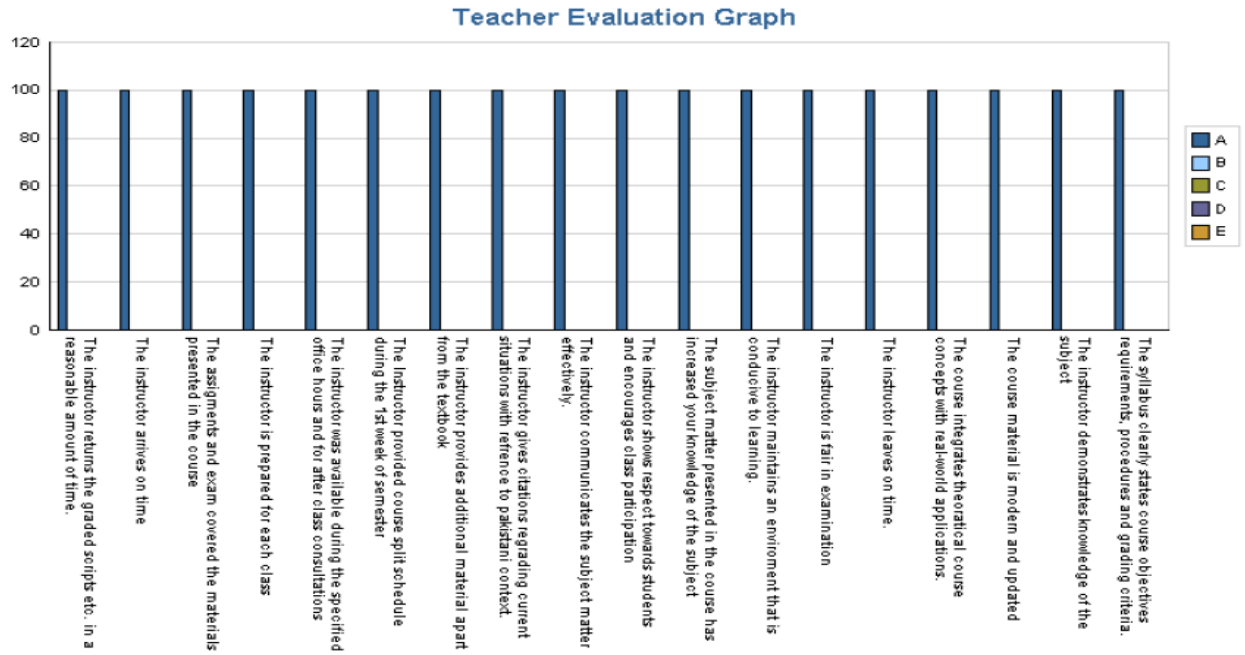

Fig: Teacher evaluation (Section-B) Engineering Drawing & Graphics, Fall-15

Comments

The graph shows that the teacher was dedicated and conveys the knowledge effectively. He was punctual, friendly and gives respect to the students.

MS. TEHMENA RASHEED

Course: Fluid Mechanics

PERFORMA-1 (Section-A)

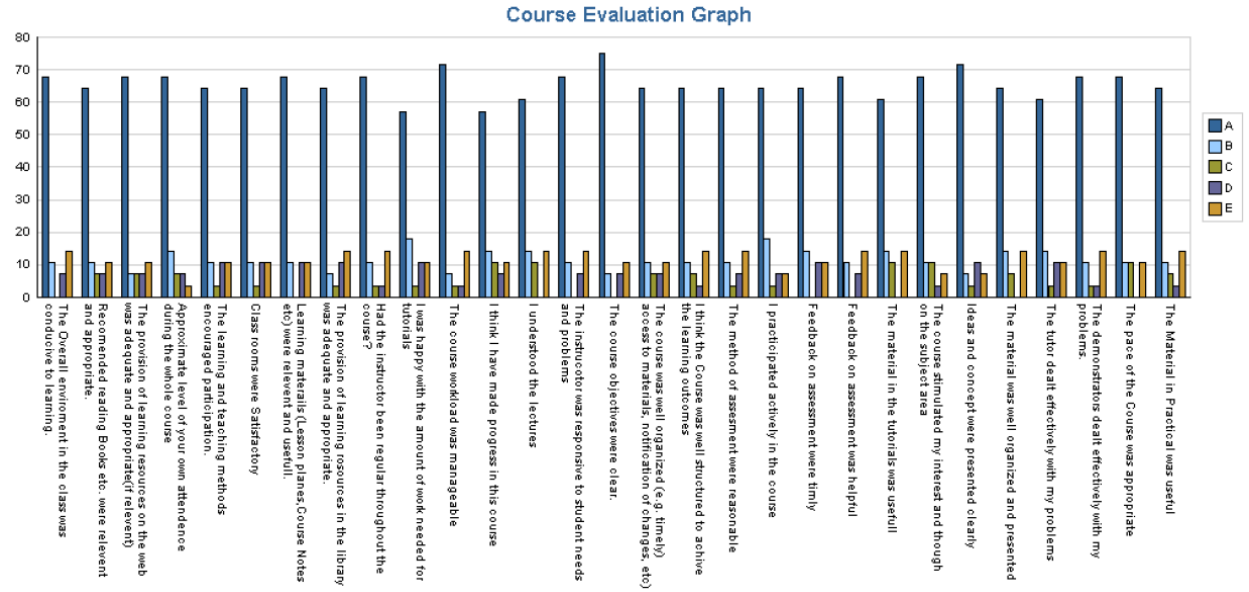

Fig: Course evaluation (Section-A) Fluid Mechanics, Fall-15

PERFORMA-1 (Section-B)

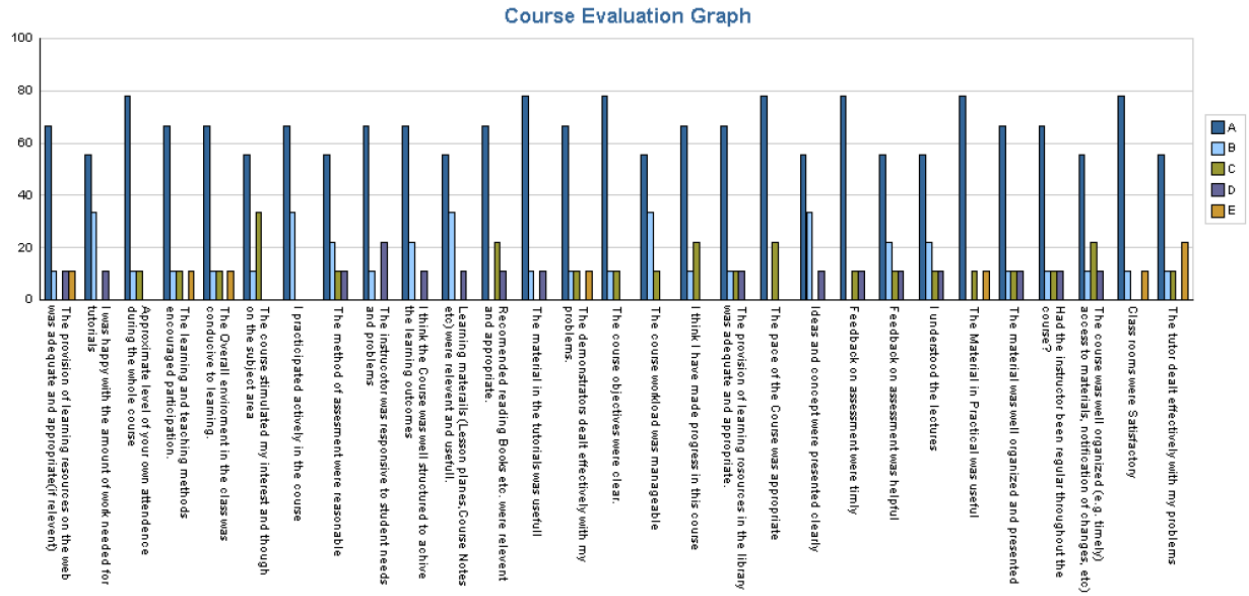

Fig: Course evaluation (Section-B) Fluid Mechanics, Fall-15

Comments

The course was difficult but very important for engineering. Some students feel difficulty to understand the contents.

PERFORMA-10 (Section-A)

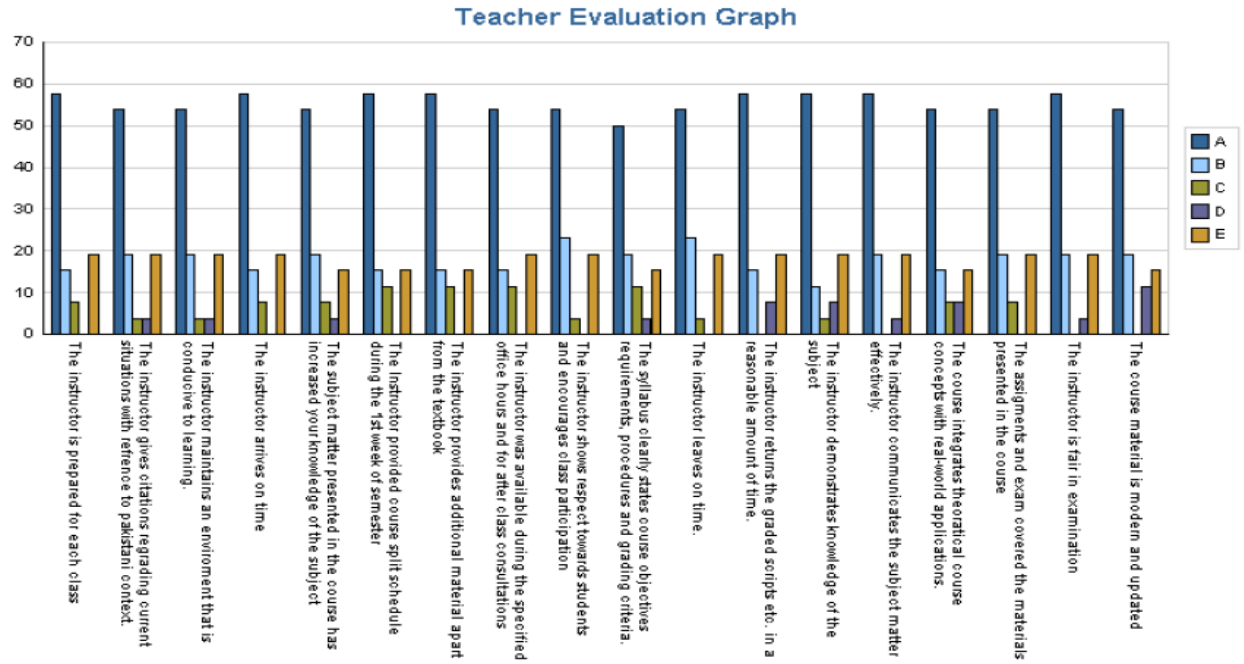

Fig: Teacher evaluation (Section-A) Fluid Mechanics, Fall-15

PERFORMA-10 (Section-B)

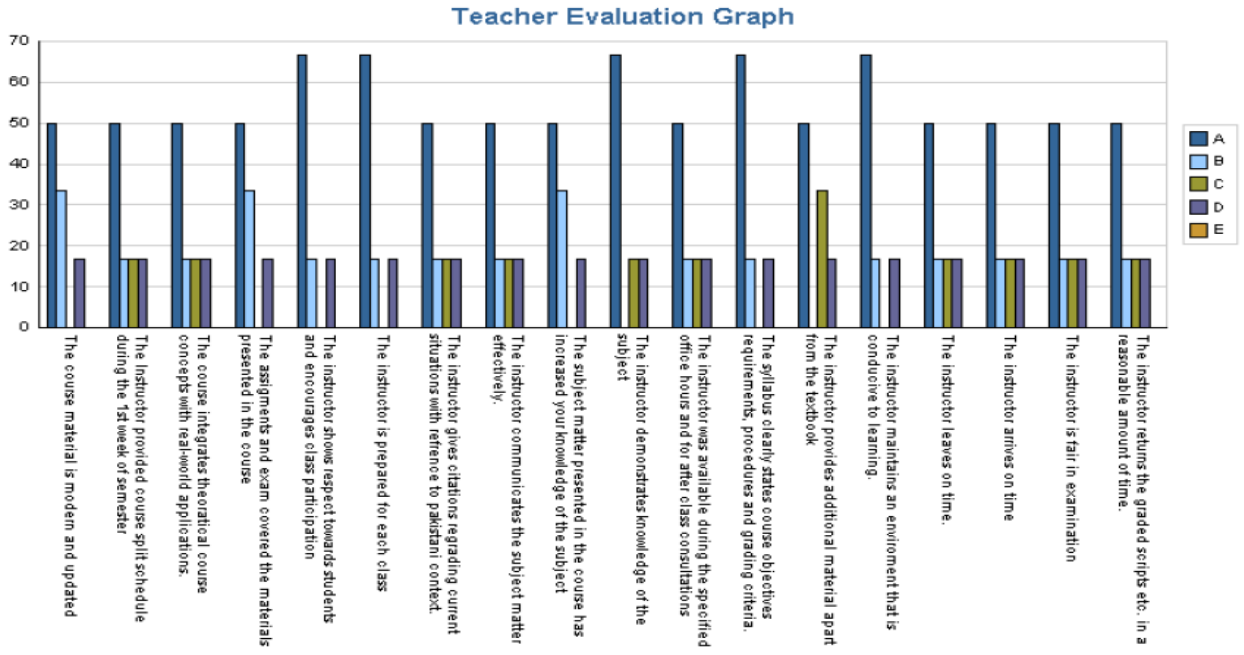

Fig: Teacher evaluation (Section-B) Fluid Mechanics, Fall-15

Comments

The graph shows that the teacher was dedicated and conveys the knowledge effectively. He was punctual, friendly and gives respect to the students.

MR. ANEES-UR-REHMAN

Course: Applied Physics

PERFORMA-1(Section-A)

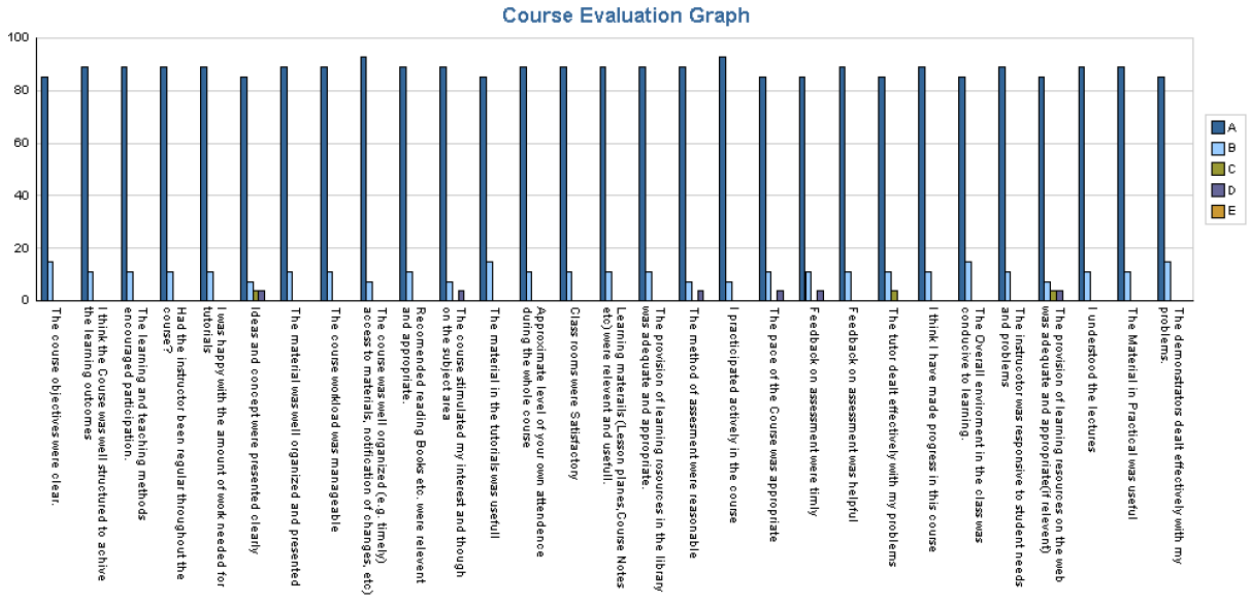

Fig: Course evaluation (Section-A) Applied Physics, Fall-15

(Section-B)

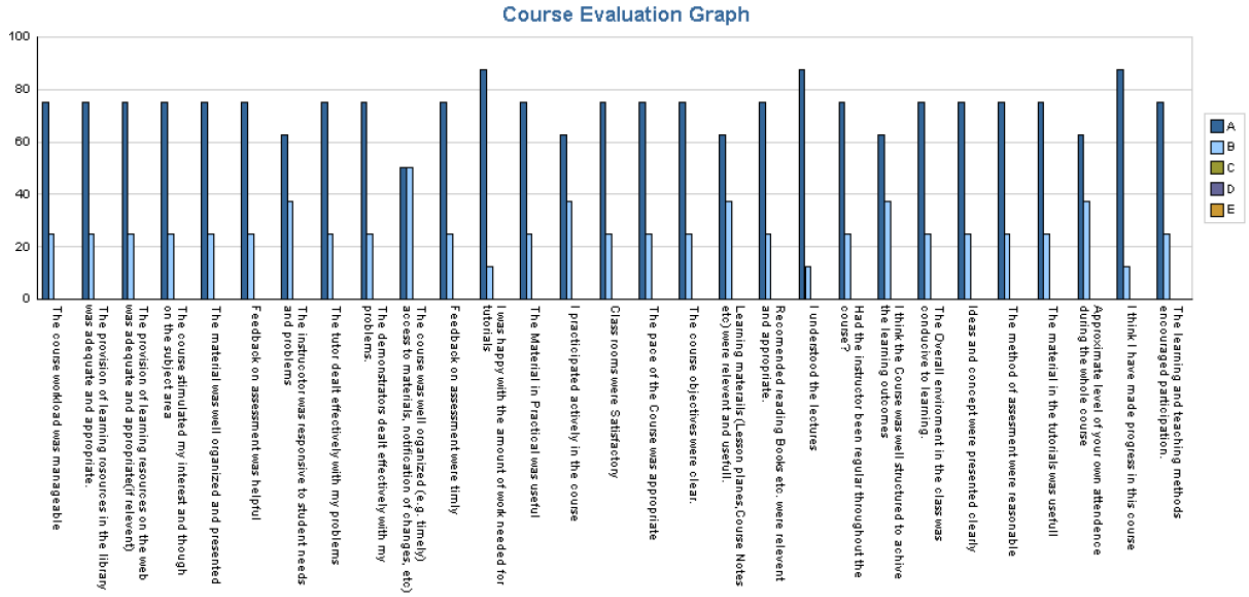

Fig: Course evaluation (Section-B) Applied Physics, Fall-15

General Comments

It was supporting course. Students leant some basic and applied principle of physics necessary for engineering solution.

PERFORMA-10 (Section-A)

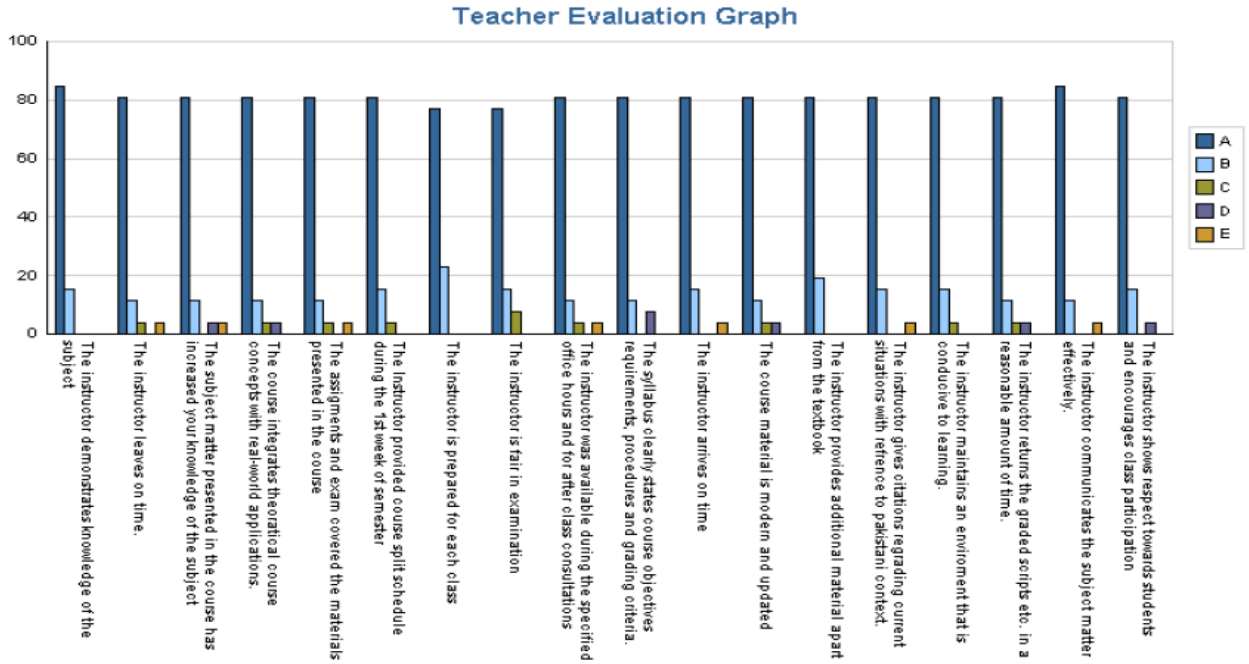

Fig: Teacher evaluation (Section-A) Applied Physics, Fall-15

(Section-B)

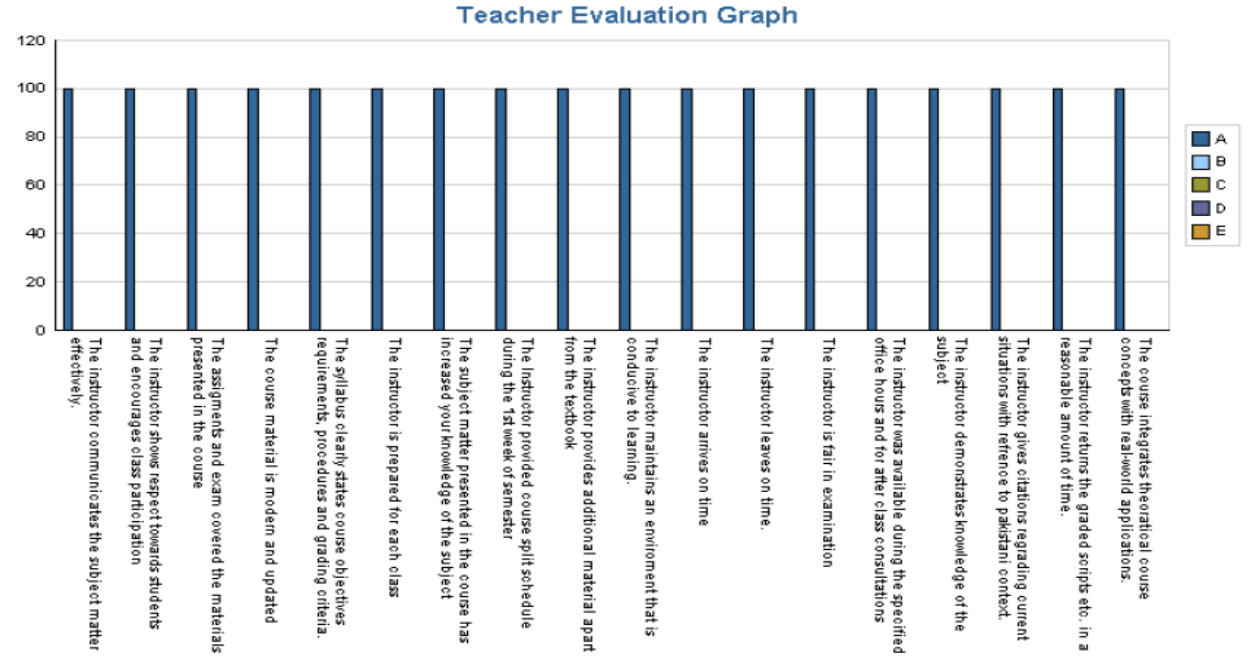

Fig: Teacher evaluation (Section-B) Applied Physics, Fall-15

Comments

According to students feedback teacher remained prepared, regular in the class and showed respect for the students. Moreover teacher was available all the time for guidance.

B.SC AGRI. ENGG. 3rd SEMESTER

PROF. DR. MUHAMMAD YASIN

Course: Engineering Thermodynamics

PERFORMA-1 (Section-B)

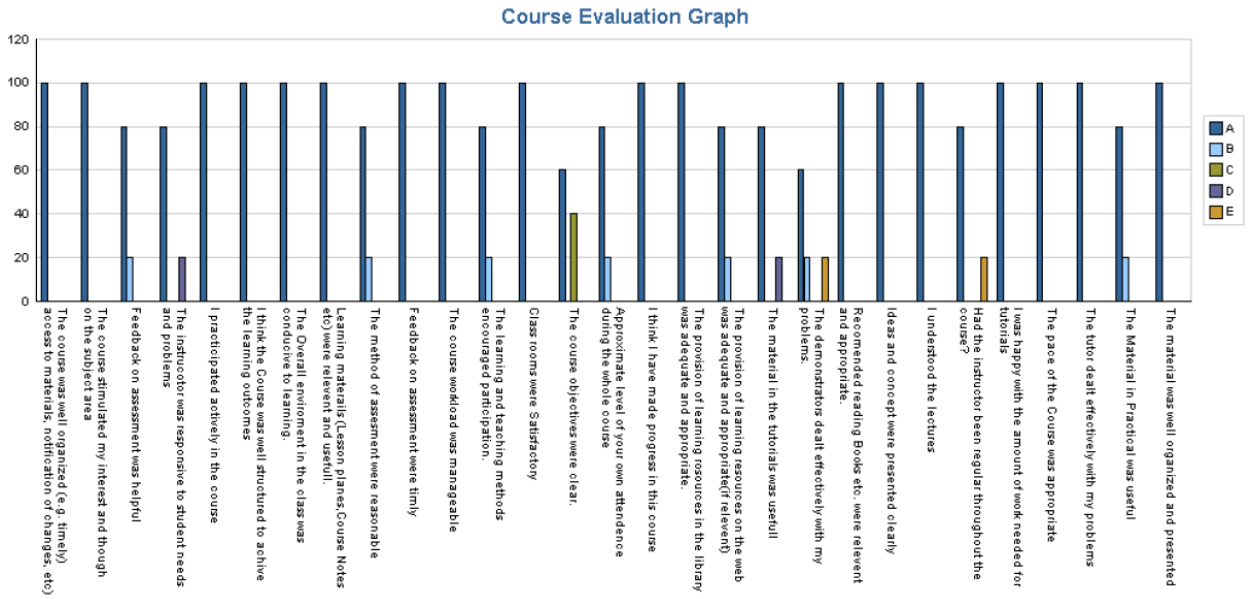

Fig: Course evaluation (Section-B) Engineering Thermodynamics, Fall-15

General Comments

The course was important and provides the valuable knowledge basic principles and laws of thermodynamics. Students were satisfied with course contents and objectives.

PERFORMA-10 (Section-B)

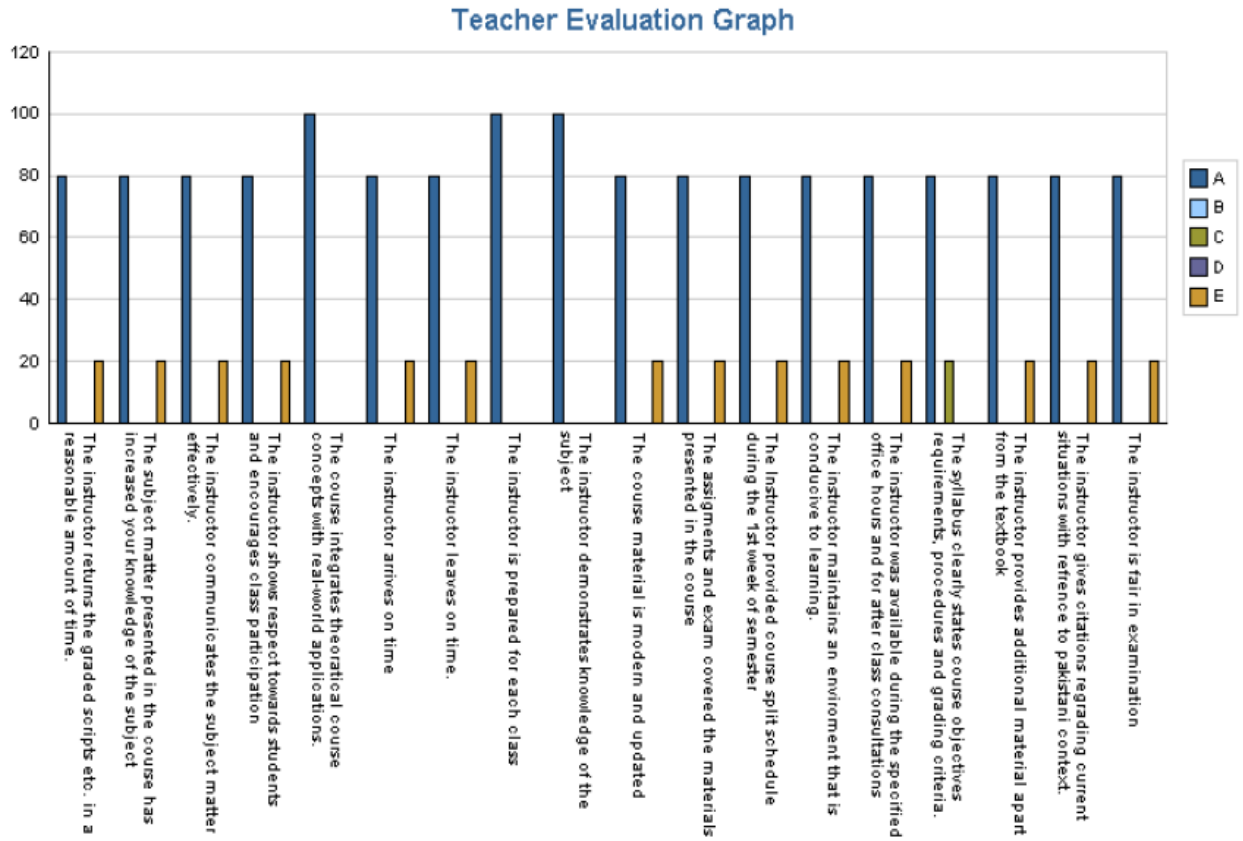

Fig: Teacher evaluation (Section-B) Engineering Thermodynamics, Fall-15

Comments

According to students feedback teacher remained prepared, regular in the class and showed respect for the students. Moreover teacher was available all the time for guidance and marks the papers without any biasness.

M. USMAN

Course: Engineering Hydrology

PERFORMA-1 (Section-A)

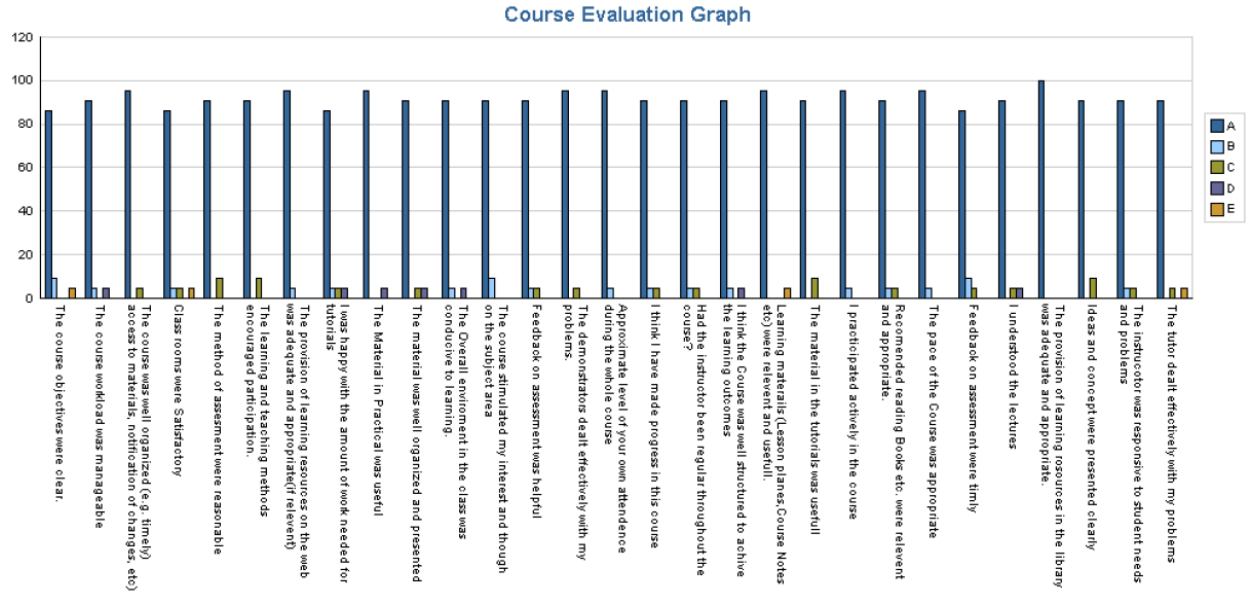

Fig: Course evaluation (Section-A) Engineering Hydrology, Fall-15

(Section-B)

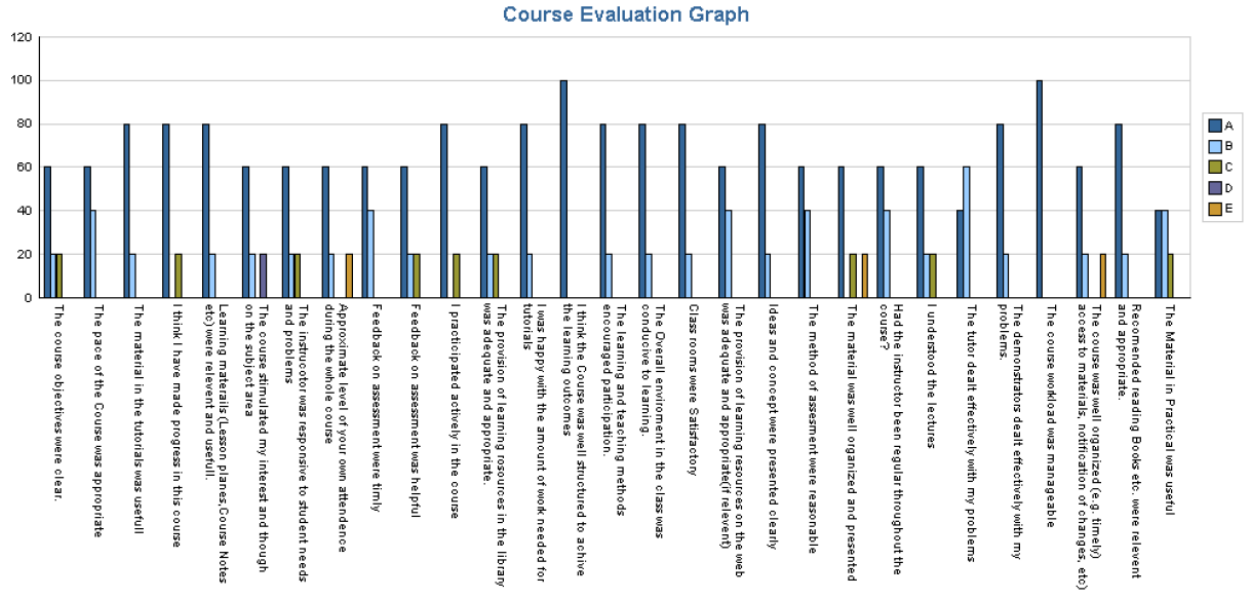

Fig: Course evaluation (Section-B) Engineering Hydrology, Fall-15

Comments

The course provides the important knowledge about engineering hydrology and its application to solve the relevant problems.

PERFORMA-10 (Section-A)

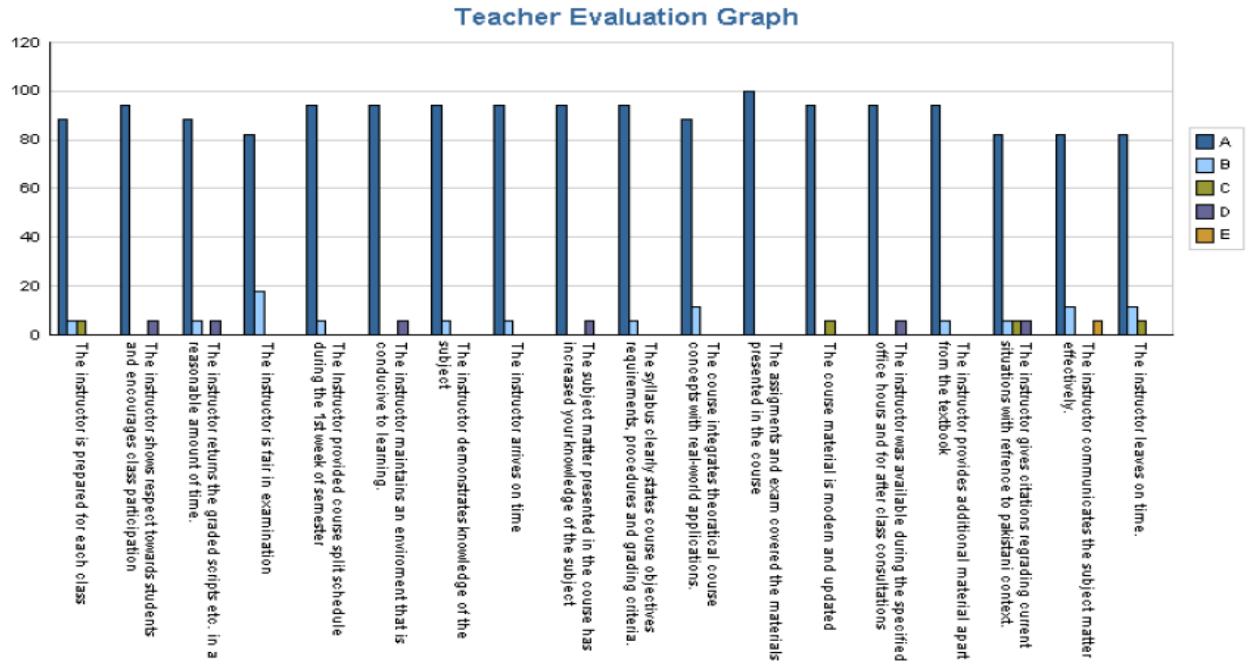

Fig: Teacher evaluation (Section-A) Engineering Hydrology, Fall-15

(Section-B)

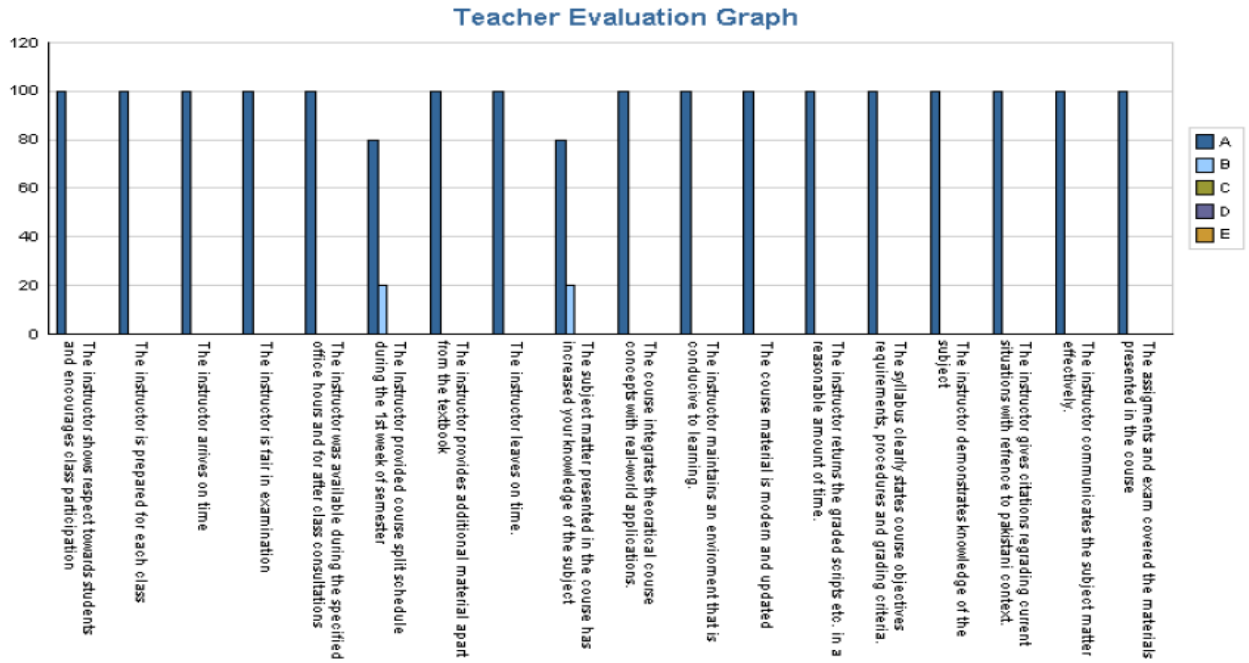

Fig: Teacher evaluation (Section-B) Engineering Hydrology, Fall-15

Comments

The graph shows that the teacher was dedicated and conveys the knowledge effectively. He was punctual, friendly and gives respect to the students.

DR. MUHAMMAD UMAIR

Course: Surveying & Leveling

PERFORMA-1 (Section-A)

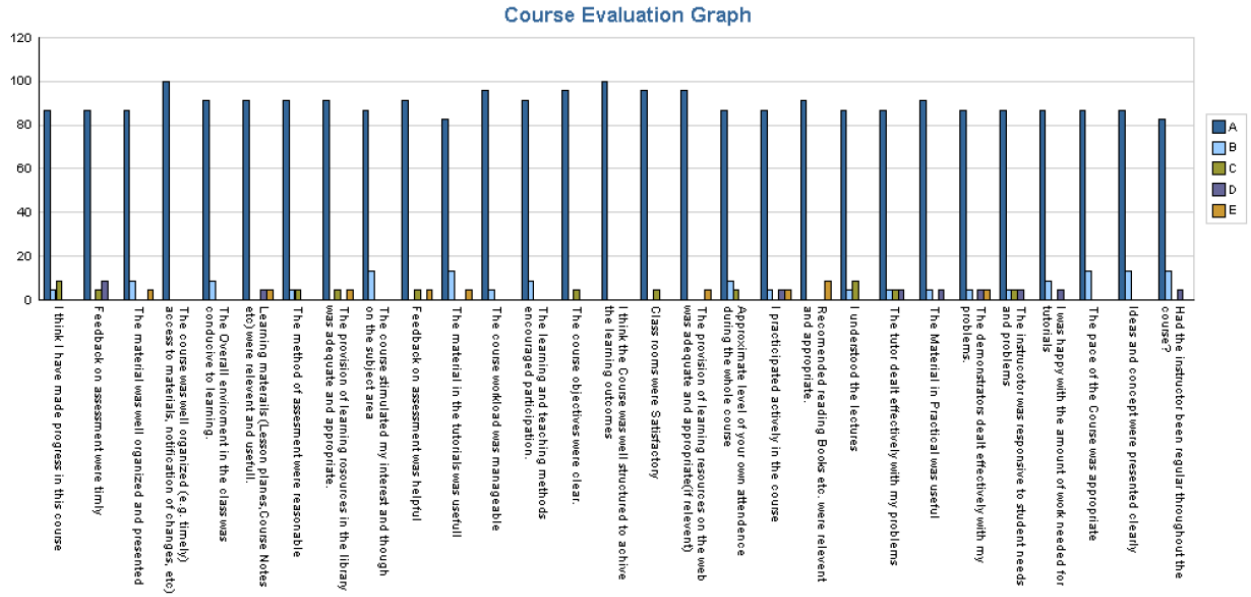

Fig: Course evaluation (Section-A) Surveying & Leveling, Fall-15

(Section-B)

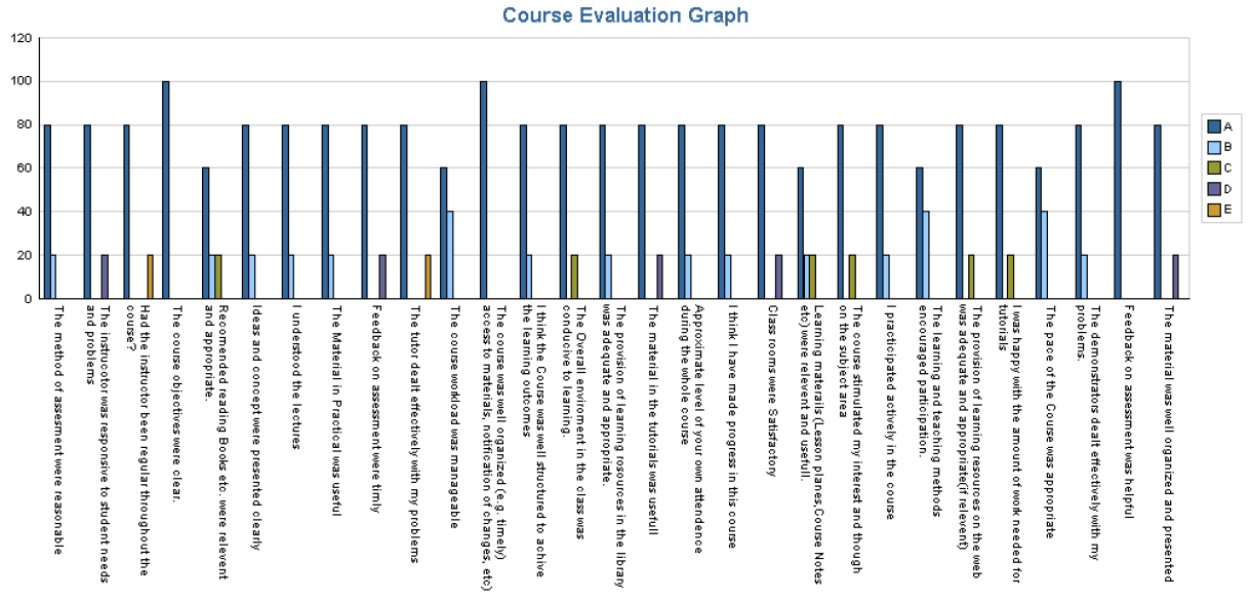

Fig: Course evaluation (Section-B) Surveying & Leveling, Fall-15

General Comments

The course was interesting and useful regarding construction and field survey point of view. Students were satisfied with course contents and objectives.

PERFORMA-10 (Section-A)

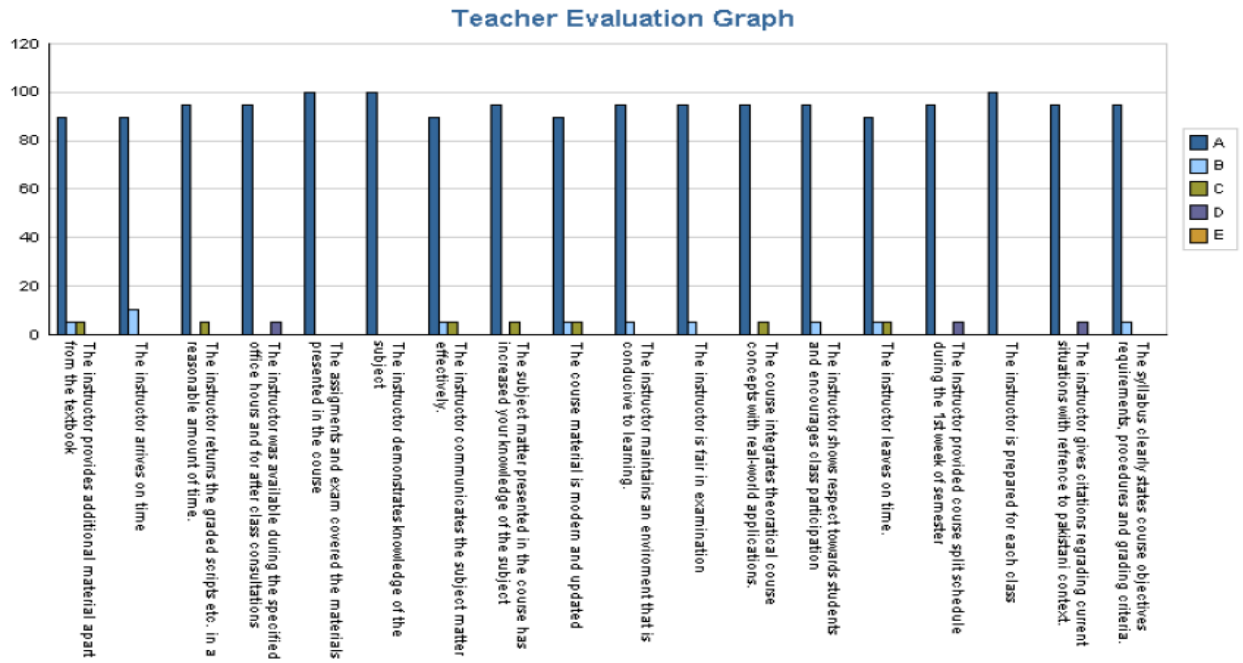

Fig: Teacher evaluation (Section-A) Surveying & Leveling, Fall-15

(Section-B)

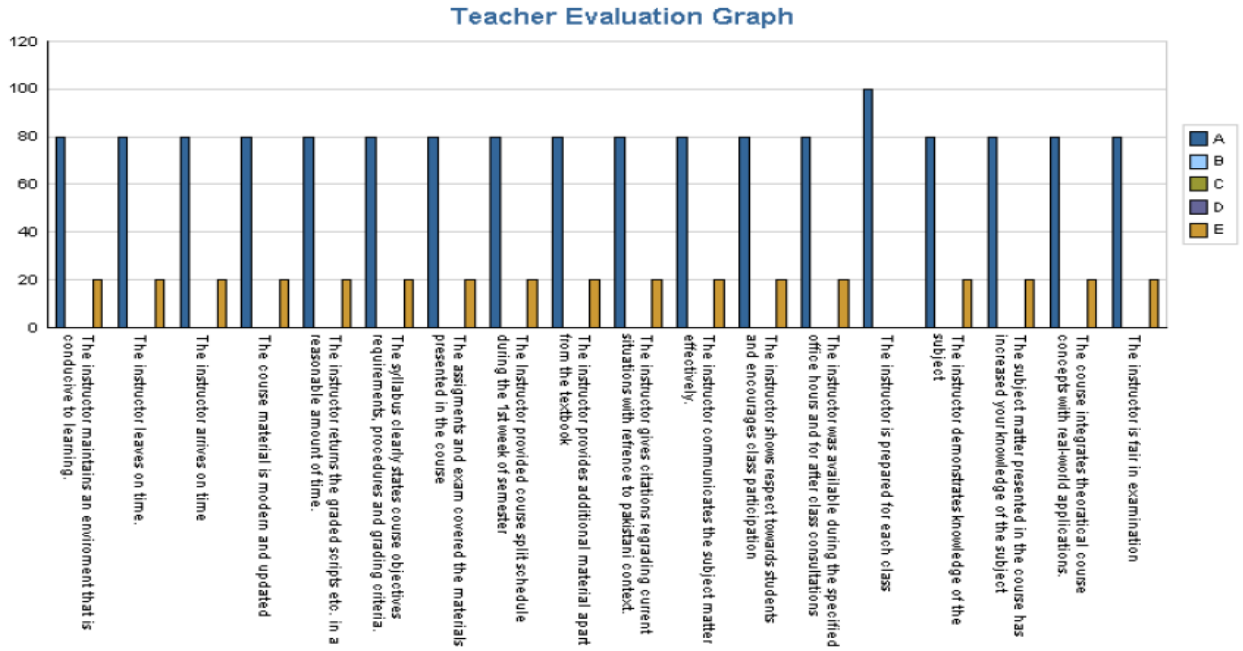

Fig: Teacher evaluation (Section-B) Surveying & Leveling, Fall-15

Comments

According to students feedback teacher remained prepared, regular in the class and showed respect for the students. Teacher was available all the time for guidance and marks the papers without any biasness.

MS. TEHMENA RASHEED

Course: Engineering Thermodynamics

PERFORMA-1(Section-A)

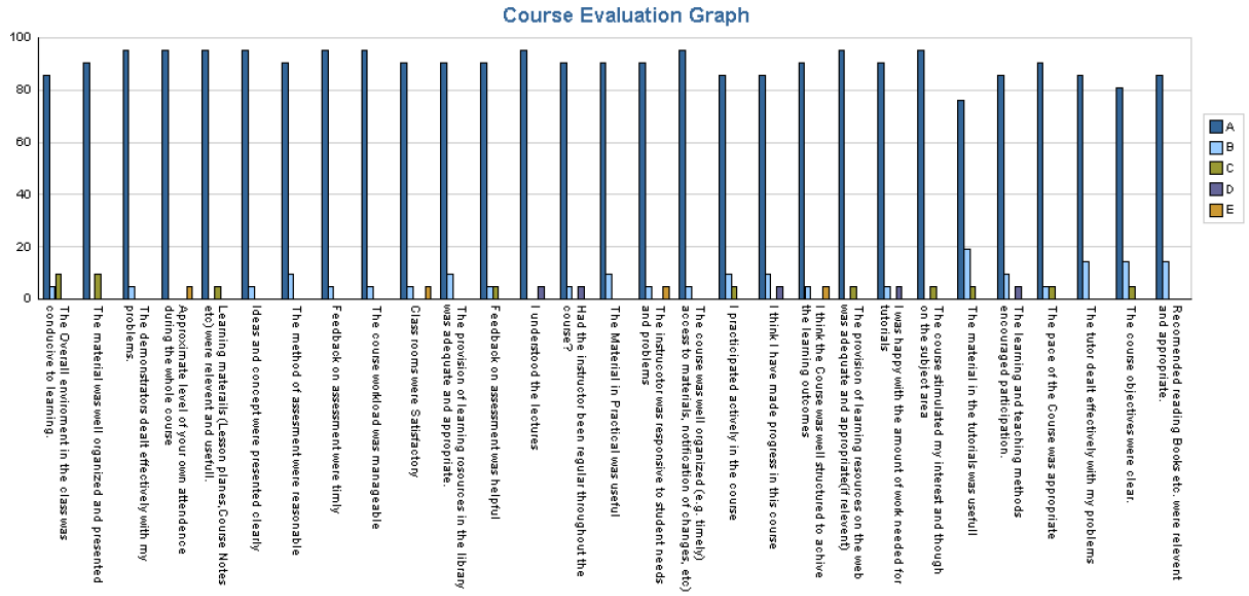

Fig: Course evaluation (Section-A) Engineering Thermodynamics, Fall-15

General Comments

The course was conceptual and provides the basic laws and principles of thermodynamics. Students were satisfied with course contents and objectives.

PERFORMA-10 (Section-A)

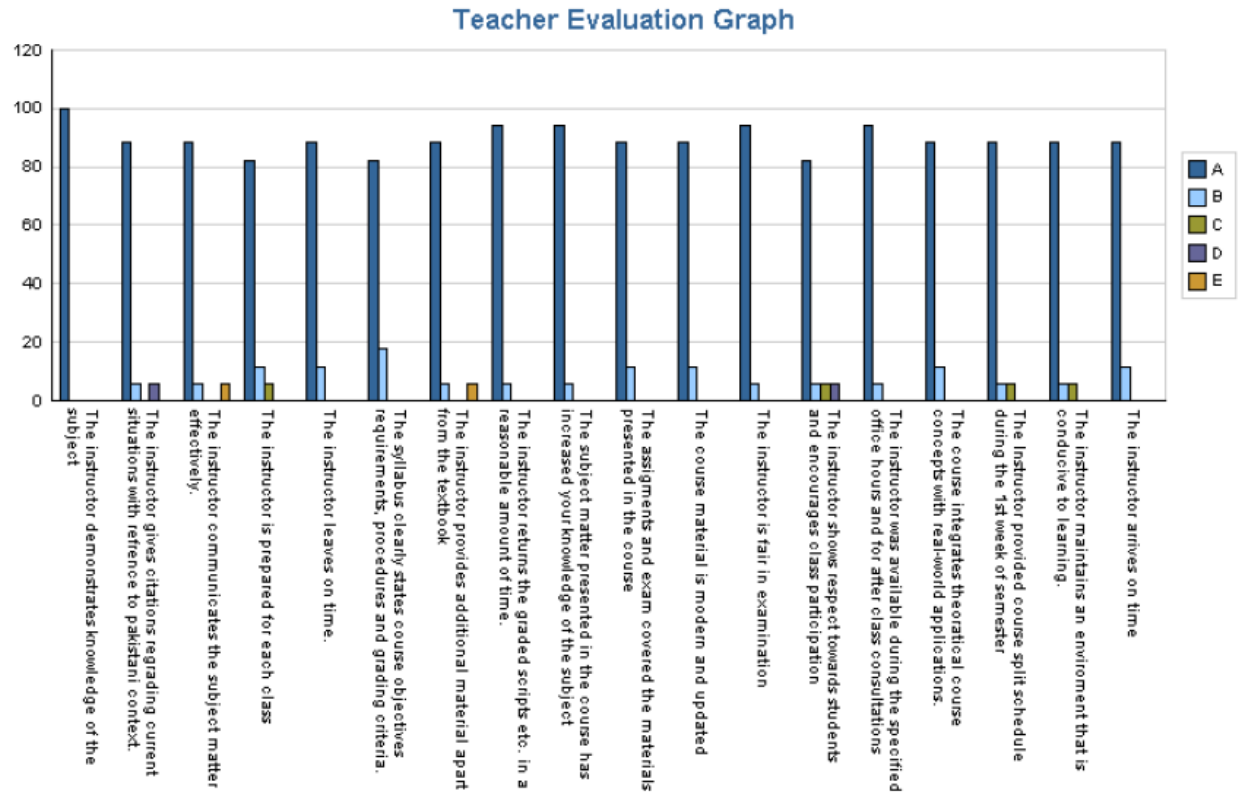

Fig: Teacher evaluation (Section-A) Engineering Thermodynamics, Fall-15

Comments

According to students feedback teacher remained prepared, regular in the class and showed respect for the students. Moreover teacher was available all the time for guidance and marks the papers without any biasness.

MS SAIRA ANWER

Course: Computer Program and application

PERFORMA-1 (Section-A)

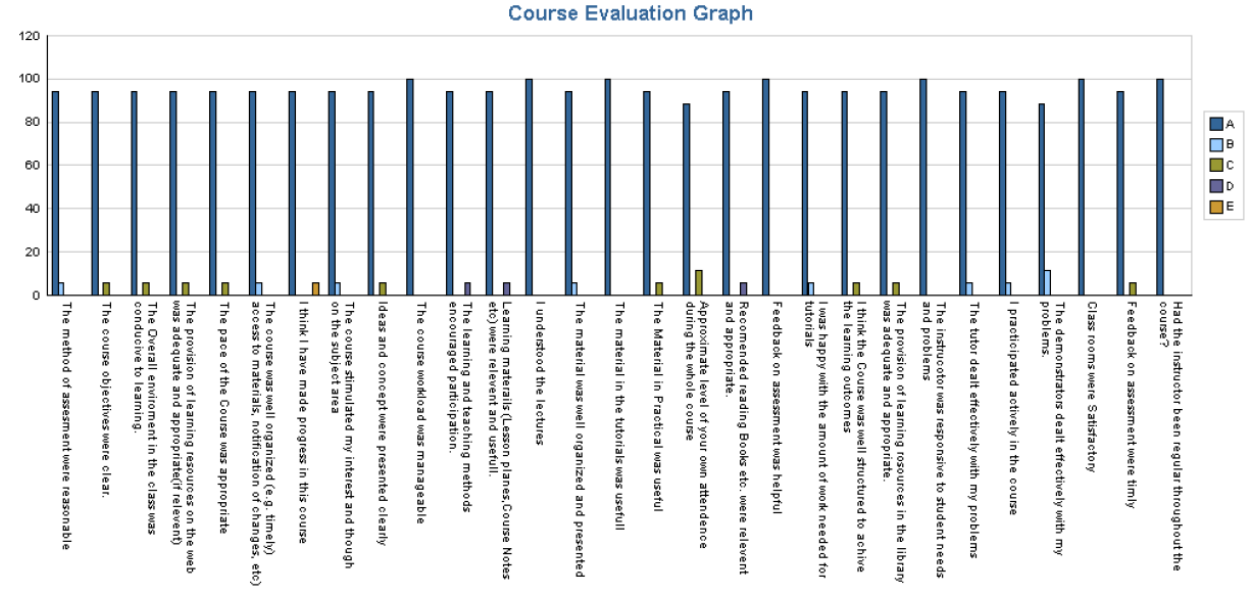

Fig: Course evaluation (Section-A) Computer Program and application, Fall-15

(Section-B)

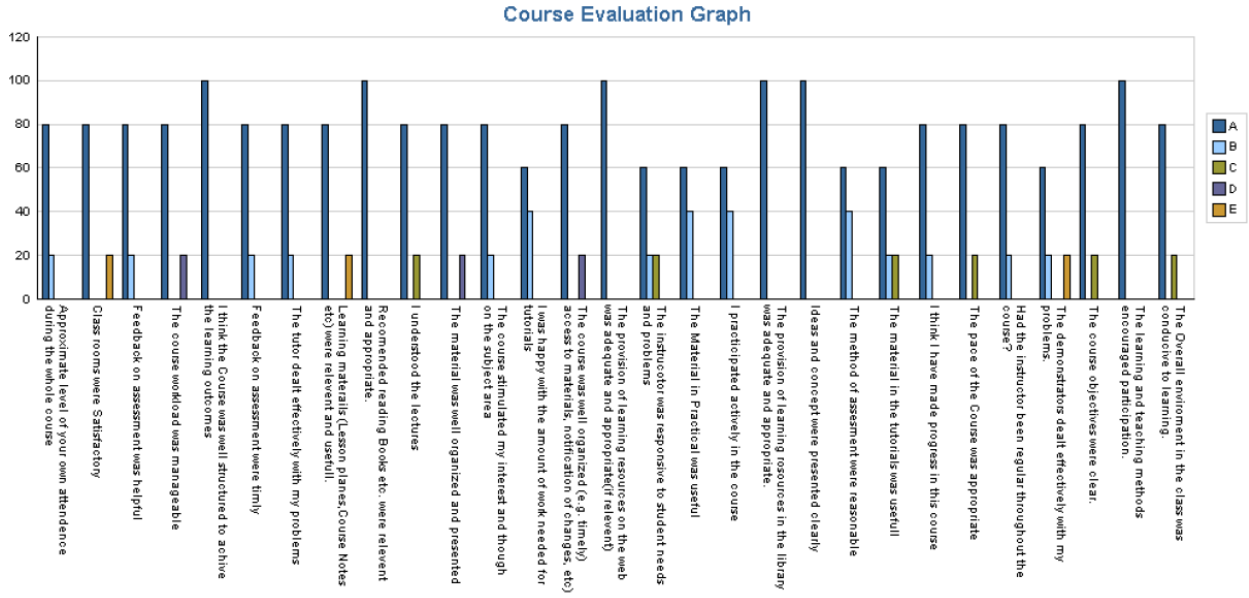

Fig: Course evaluation (Section-B) Computer Program and application, Fall-15

General Comments

The course was provides the useful knowledge about computer programming and its application in engineering. Students were satisfied with course contents and objectives.

PERFORMA-10 (Section-A)

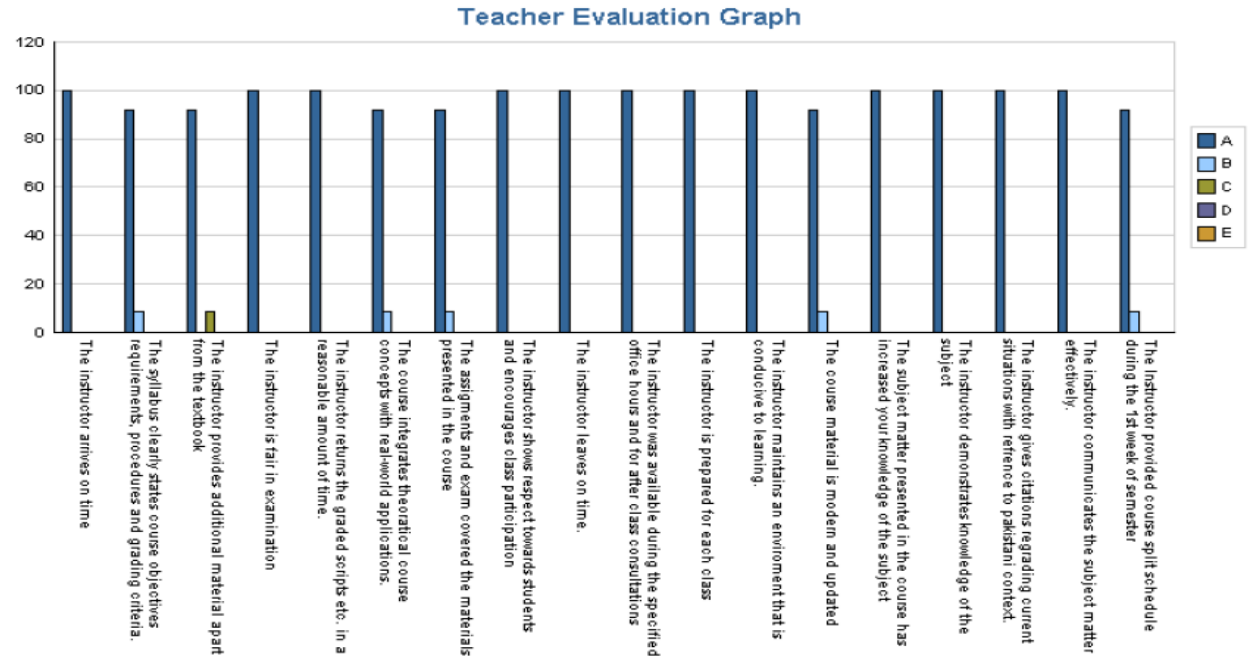

Fig: Teacher evaluation (Section-A) Computer Program and application, Fall-15

(Section-B)

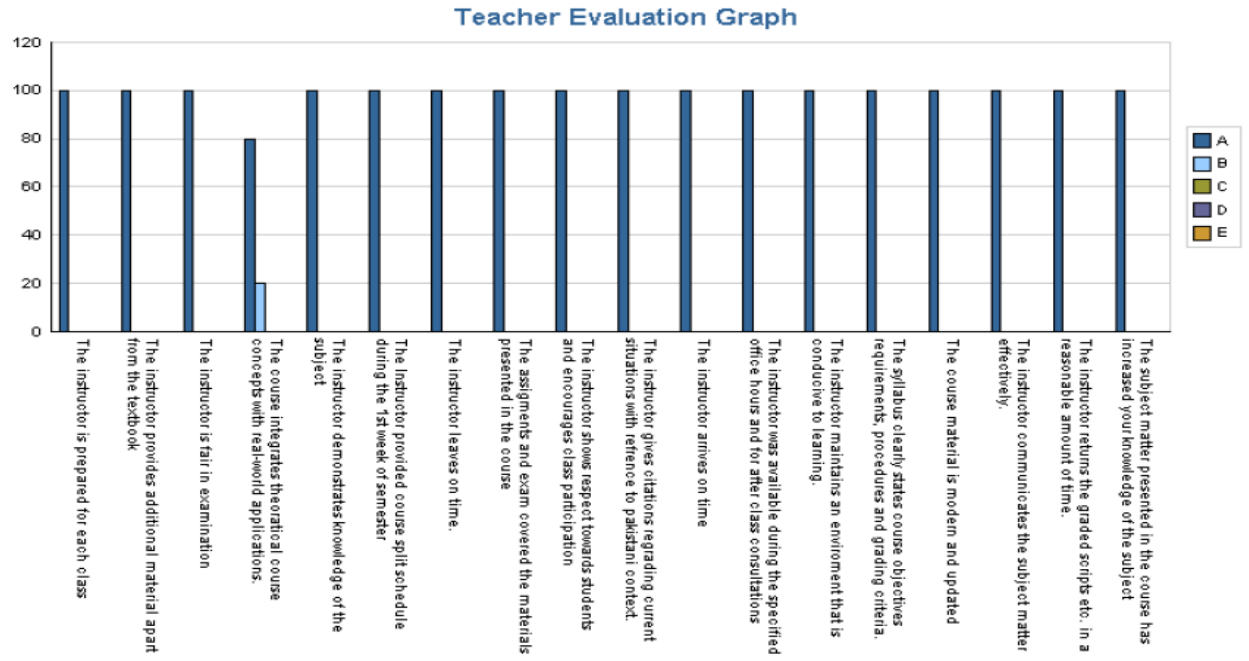

Fig: Teacher evaluation (Section-B) Computer Program and application, Fall-15

Comments

According to students feedback teacher remained prepared, regular in the class and showed respect for the students.

B.SC AGRI. ENGG. 5th SEMESTER

PROF. DR. J. K. SIAL

Course: Fundamentals of Environmental Engineering

PERFORMA-1 (Section-A)

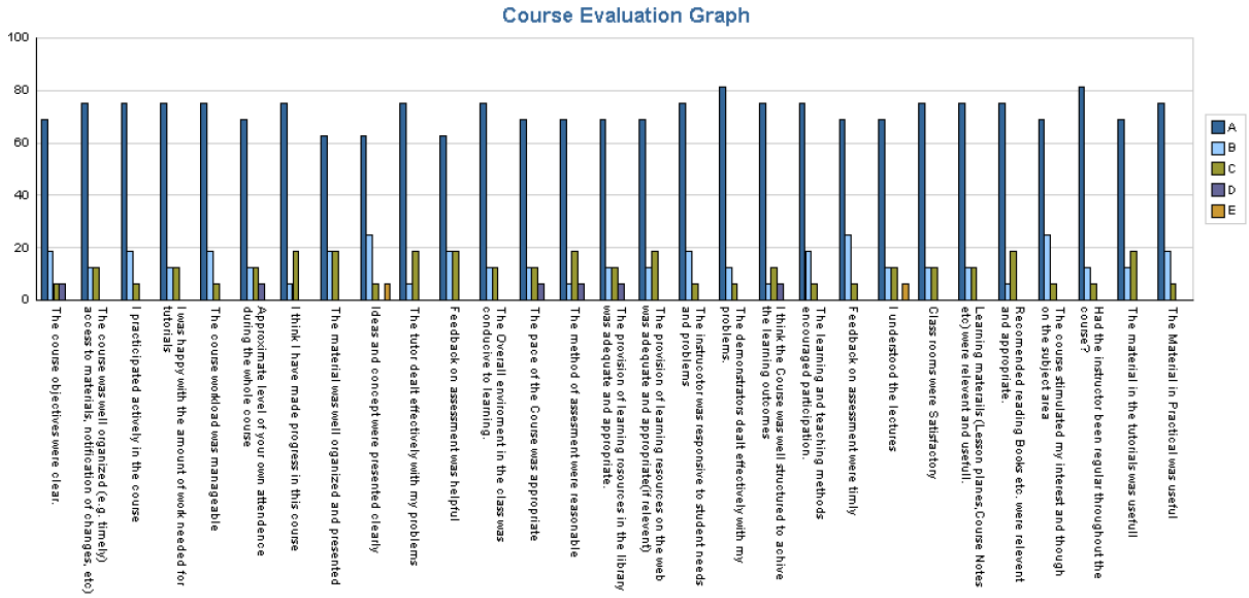

Fig: Course evaluation (Section-A) Fundamentals of Environmental Engineering, Fall-15

(Section-B)

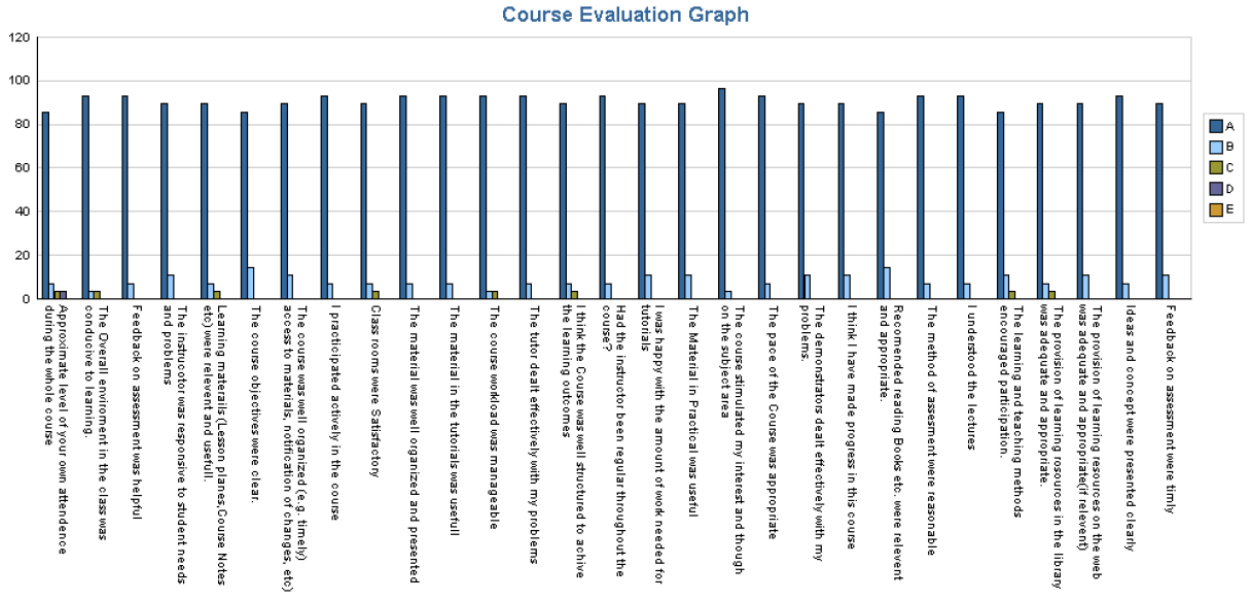

Fig: Course evaluation (Section-B) Fundamentals of Environmental Engineering, Fall-15

General Comments/Suggestions

The course provides fundamental knowledge of environmental engineering. Students were satisfied with course contents.

PERFORMA-10 (Section-A)

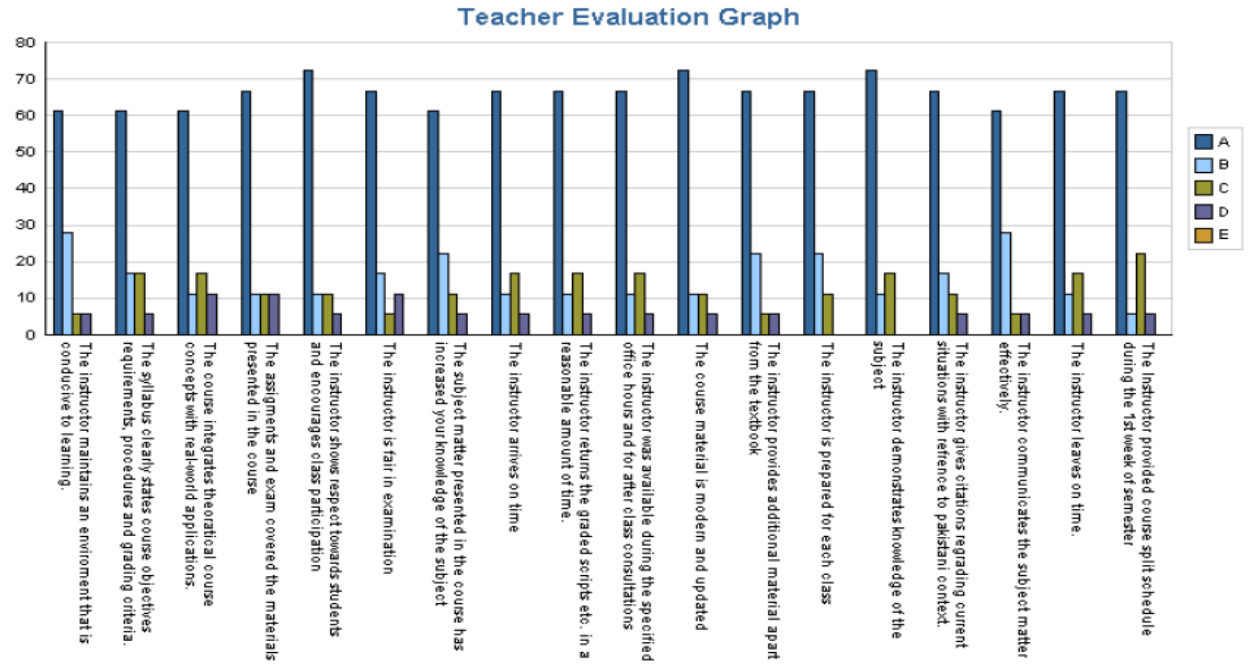

Fig: Teacher evaluation (Section-A) Fundamentals of Environmental Engineering, Fall-15

(Section-B)

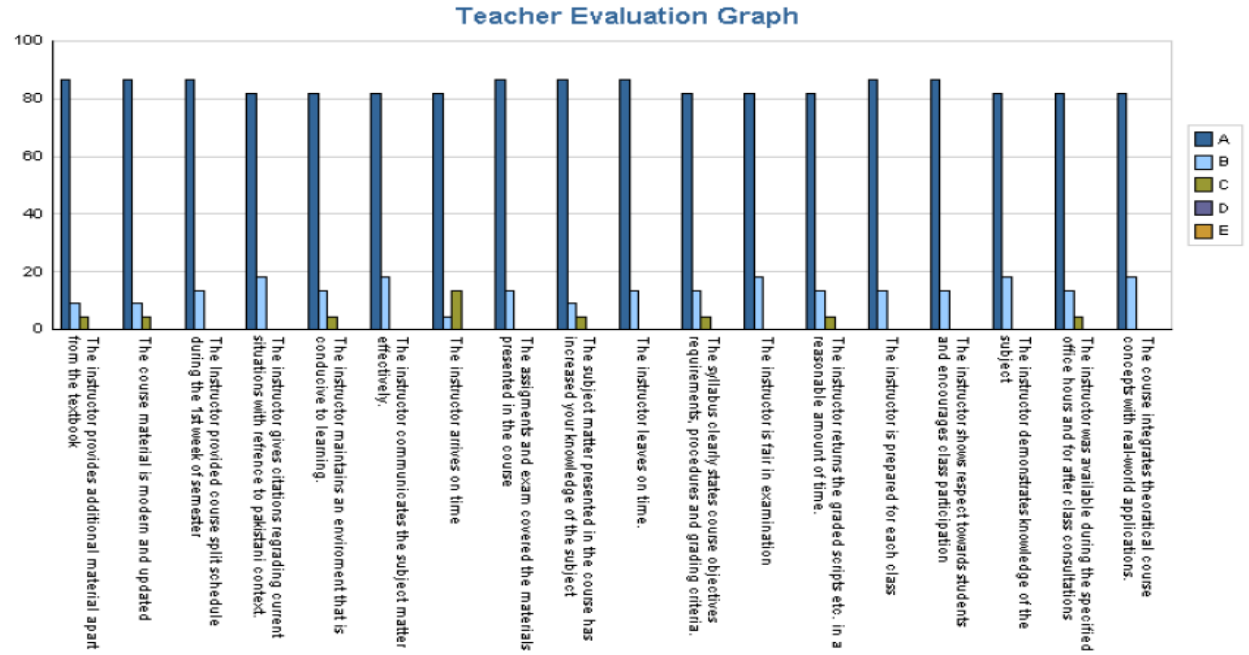

Fig: Teacher evaluation (Section-B) Fundamentals of Environmental Engineering, Fall-15

Comments

The graph shows that the teacher was dedicated and conveys the knowledge effectively. He was punctual, friendly and gives respect to the students.

DR. MUHAMMAD UMAIR

Course: Boiler Engineering and Power Plants

PERFORMA-1 (Section-A)

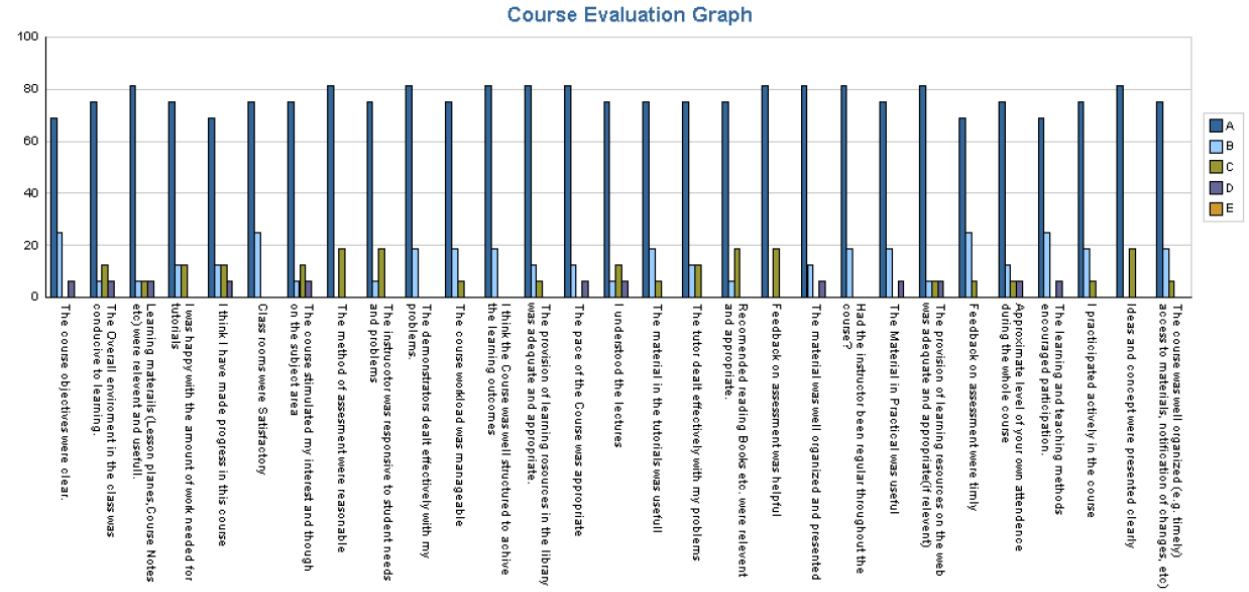

Fig: Course evaluation (Section-A) Boiler Engineering and Power Plants, Fall-15

(Section-B)

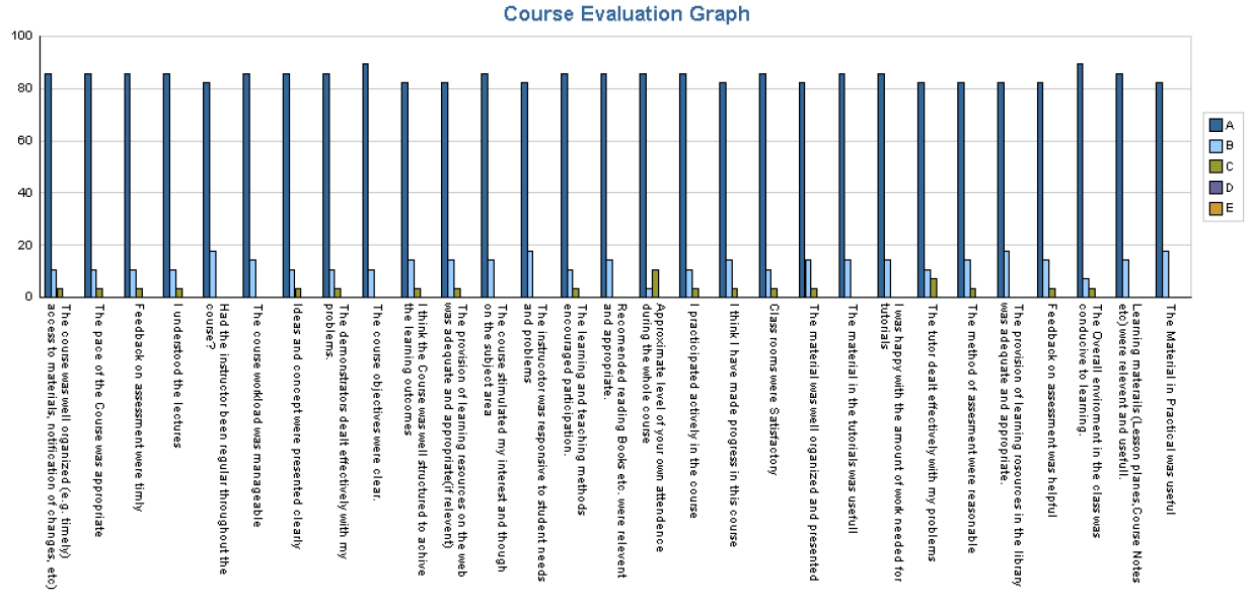

Fig: Course evaluation (Section-B) Boiler Engineering and Power Plants, Fall-15

General Comments

The course was interesting and provides the useful knowledge about Boilers and Power plants. They learnt the operation and working principle of steam formation and its utilization devices. Students were satisfied with course contents and objectives.

PERFORMA-10 (Section-A)

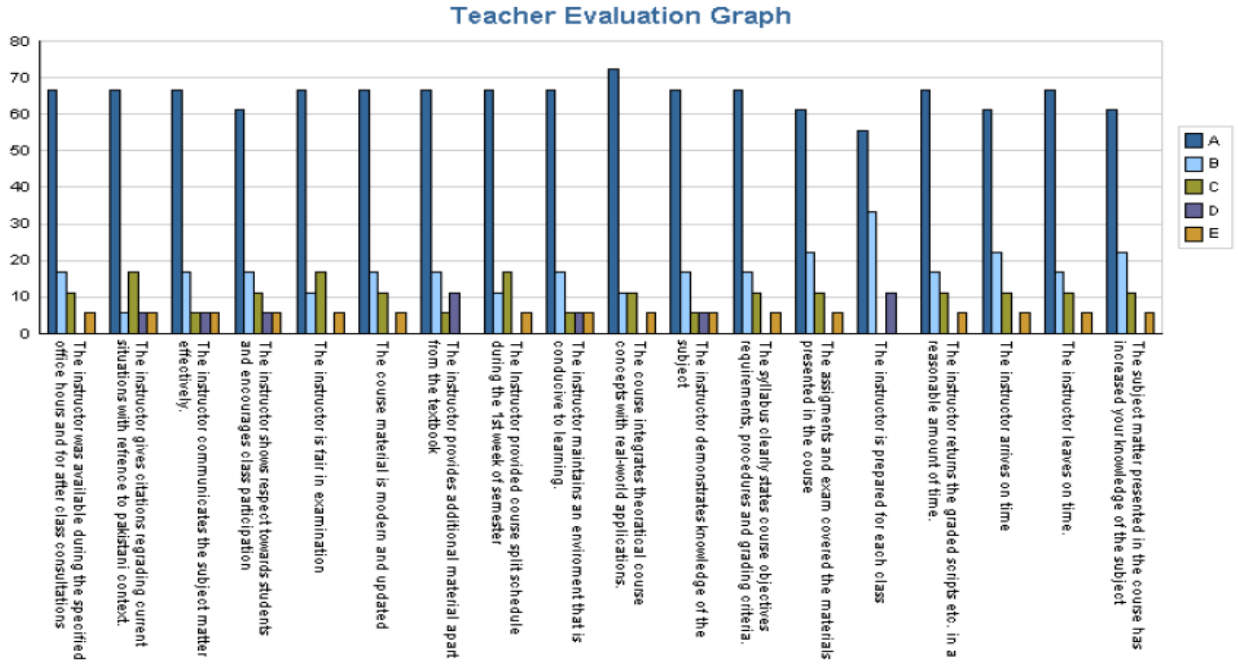

Fig: Teacher evaluation (Section-A) Boiler Engineering and Power Plants, Fall-15

(Section-B)

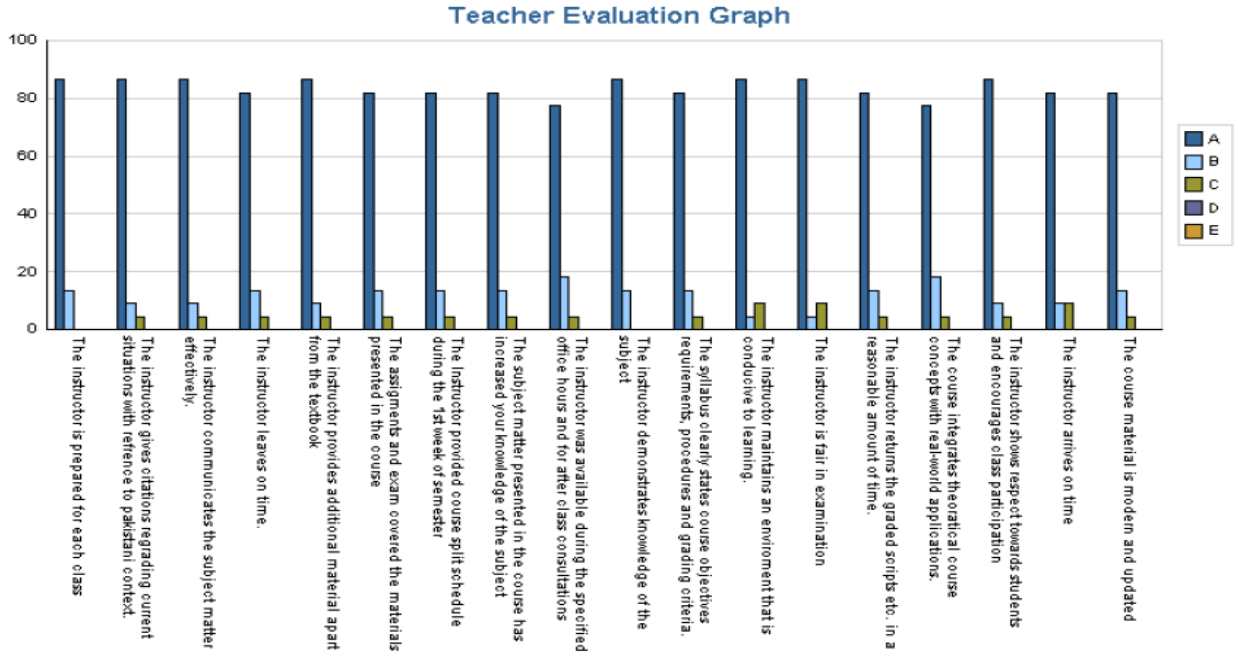

Fig: Teacher evaluation (Section-B) Boiler Engineering and Power Plants, Fall-15

Comments

Teacher remained prepared, regular in the class and showed respect for the students. Teacher was available all the time for guidance and marks the papers without any biasness.

ENGR. M. USMAN

Course: Irrigation Engineering

PERFORMA-1 (Section-A)

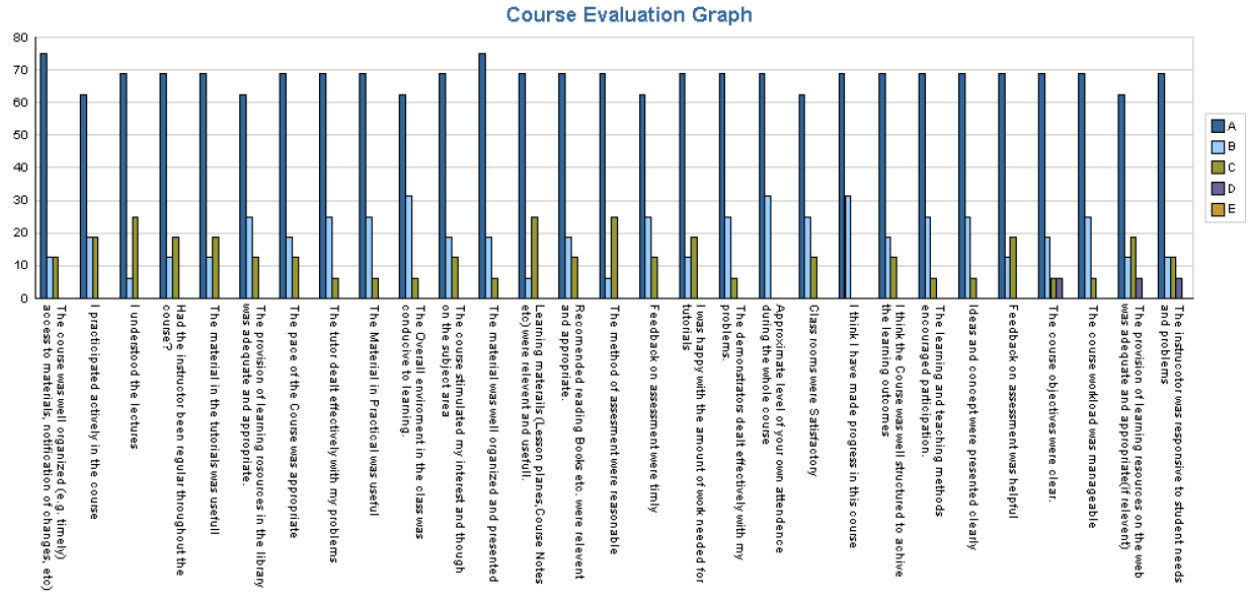

Fig: Course evaluation (Section-A) Irrigation Engineering, Fall-15

(Section-B)

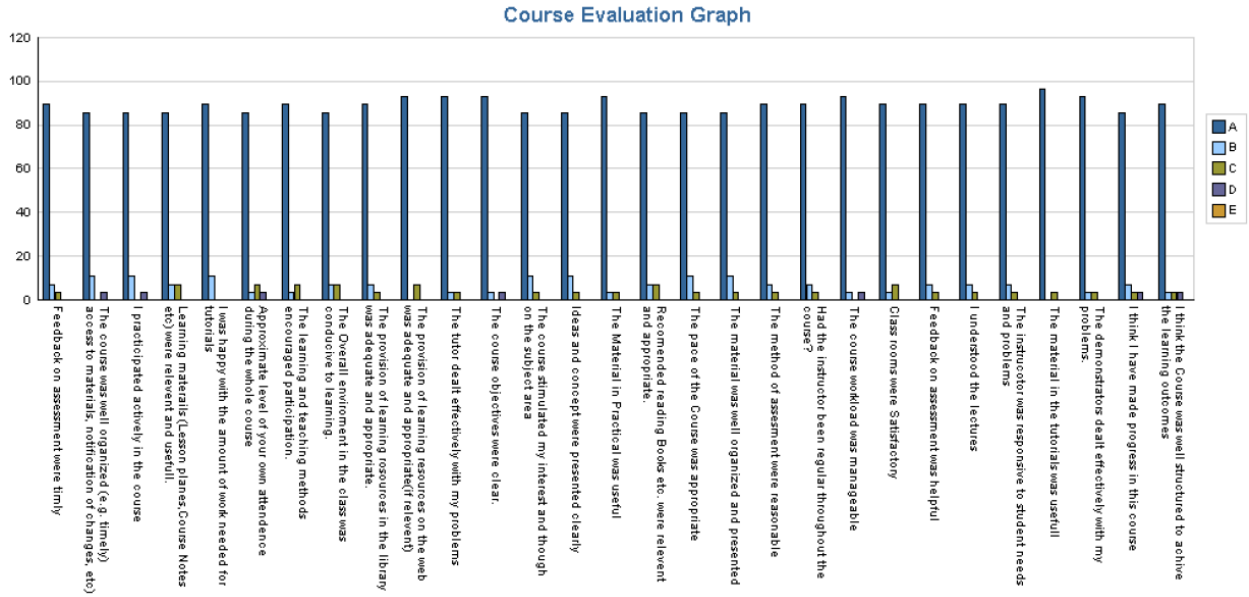

Fig: Course evaluation (Section-B) Irrigation Engineering, Fall-15

General Comments

The course was interesting and provides the useful knowledge about Irrigation engineering. Students were satisfied with course contents and objectives.

PERFORMA-10 (Section-A)

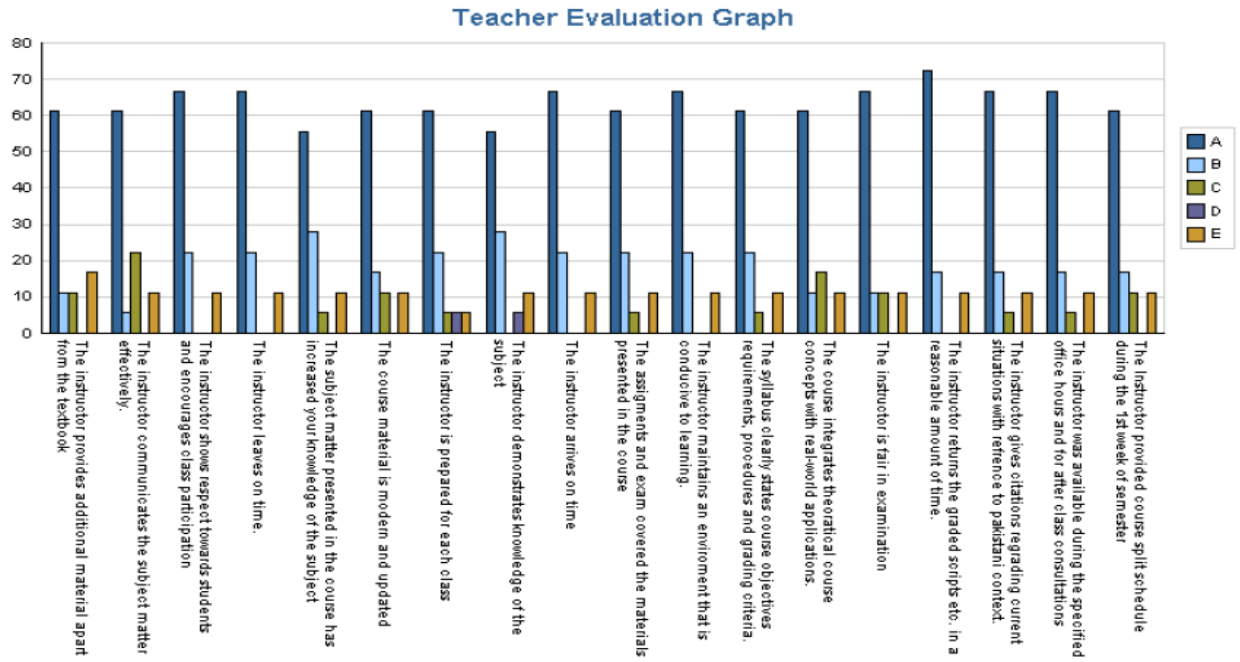

Fig: Teacher evaluation (Section-A) Irrigation Engineering, Fall-15

(Section-B)

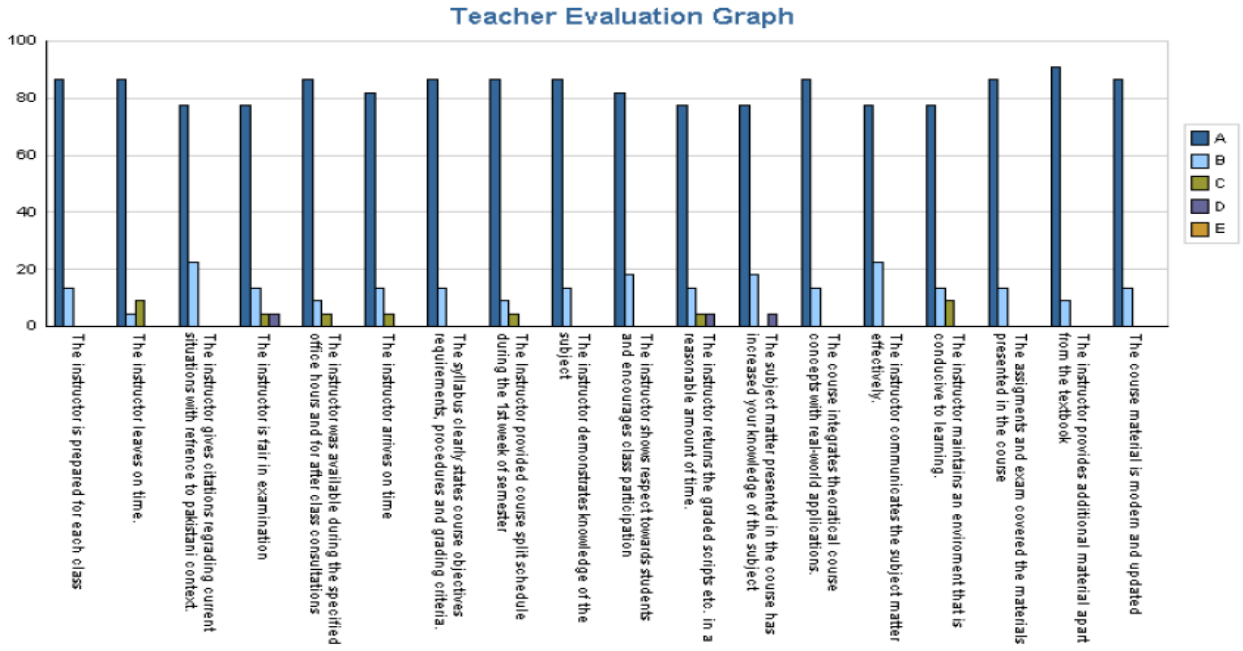

Fig: Teacher evaluation (Section-B) Irrigation Engineering, Fall-15

Comments

According to students feedback teacher remained prepared, regular in the class, and was available all the time for guidance.

Spring-16			
Course no.	**Credit hour**	**Title**	**Teacher**
B.Sc Agri. Engg. 2nd semester			
SEE-306	3(2–1)	Engineering Mechanics	Dr. M. Umair
SEE-302	2(1–1)	Computer Aided Design	Mr. Ikhlaq Ahmad
SEE-302	2(1–1)	Computer Aided Design	Ms Tehmina Rashid
FMPE-302	3(2–1)	Manufacturing Engineering	Dr. M. Yasin
FMPE-302	3(2 – 1)	Manufacturing Engineering	Ms. Tehmina Rashid
SS-302	3(2 – 1)	Soil Science	Dr. Tariq Siddique
SS-302	3(2 – 1)	Soil Science	
AGRO-302	3(2 – 1)	Basic Agriculture	Dr. Ghulam Abbas
SSH-302	2(2 – 0)	Pakistan Studies	Ms. Salma Shujeeb
SSH-302	2(2 – 0)	Pakistan Studies	Dr. Zain-ul-Abidin
B.Sc Agri. Engg. 4th semester			
SEE402	3(2 – 1)	Mechanics of Materials	Mr. M. Asim
SEE 406	3(2 – 1)	Farm Structure & Materials	Mr. M. Asim
FMPE 402	3(2 – 1)	Farm Power	Dr. M. Yasin
FMPE 402	3(2 – 1)	Farm Power	Ms. Tehmina Rasheed
LWCE 402	3(2 – 1)	Soil Mechanics	Mr. M. Usman
LWCE 406	3(2 – 1)	Open Channel Hydraulics	Mr. Iklhaq Ahmed
HE 402	3(2 – 1)	Landscape Engineering	Mr. Zia ul Haq
B.Sc Agri. Engg. 6th semester			
FMPE-502	3(2 – 1)	Farm Machinery & Earth Moving Equipments	Dr. M. Yasin
LWCE-504	3(2 – 1)	Soil & Water Conservation Engineering	Mr. M. Usman
LWCE-502	3(2 – 1)	Drainage Engineering	Mr. Ikhlaq Ahmed
RSG-502	3(2 – 1)	GIS & Remote Sensing	Mr. M. Amin
SEE-506	3(2 – 1)	Meteorology & Climate Change	Mr. Atta-ur-Rehman
RS-502	2 (2-0)	Professional Ethics	Ms. Faiza Iqbal

B.SC AGRI. ENGG. 2nd SEMESTER

PROF. DR. M. YASIN

Course: Manufacturing Engineering

PERFORMA-1 (Section-B)

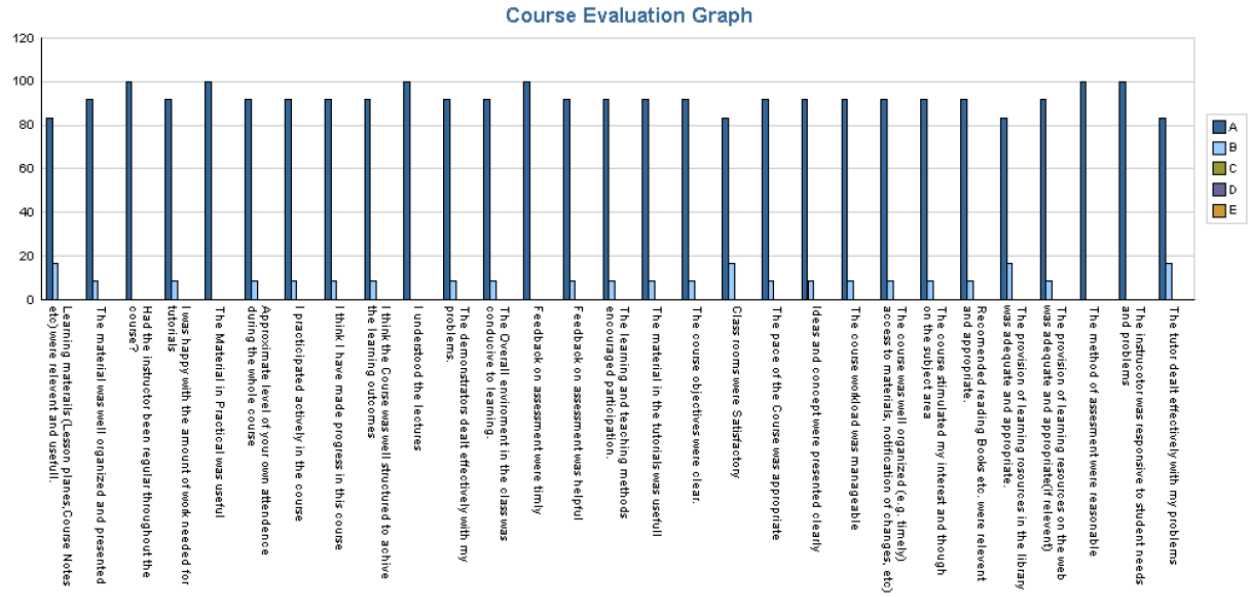

Fig: Course evaluation (Section-B) Manufacturing Engineering, Spring-16

General Comments

The course was basic and provides the knowledge regarding process, machines, and tools used in manufacturing industry. The students learnt useful knowledge and were satisfied with course objectives and contents.

PERFORMA-10 (Section-B)

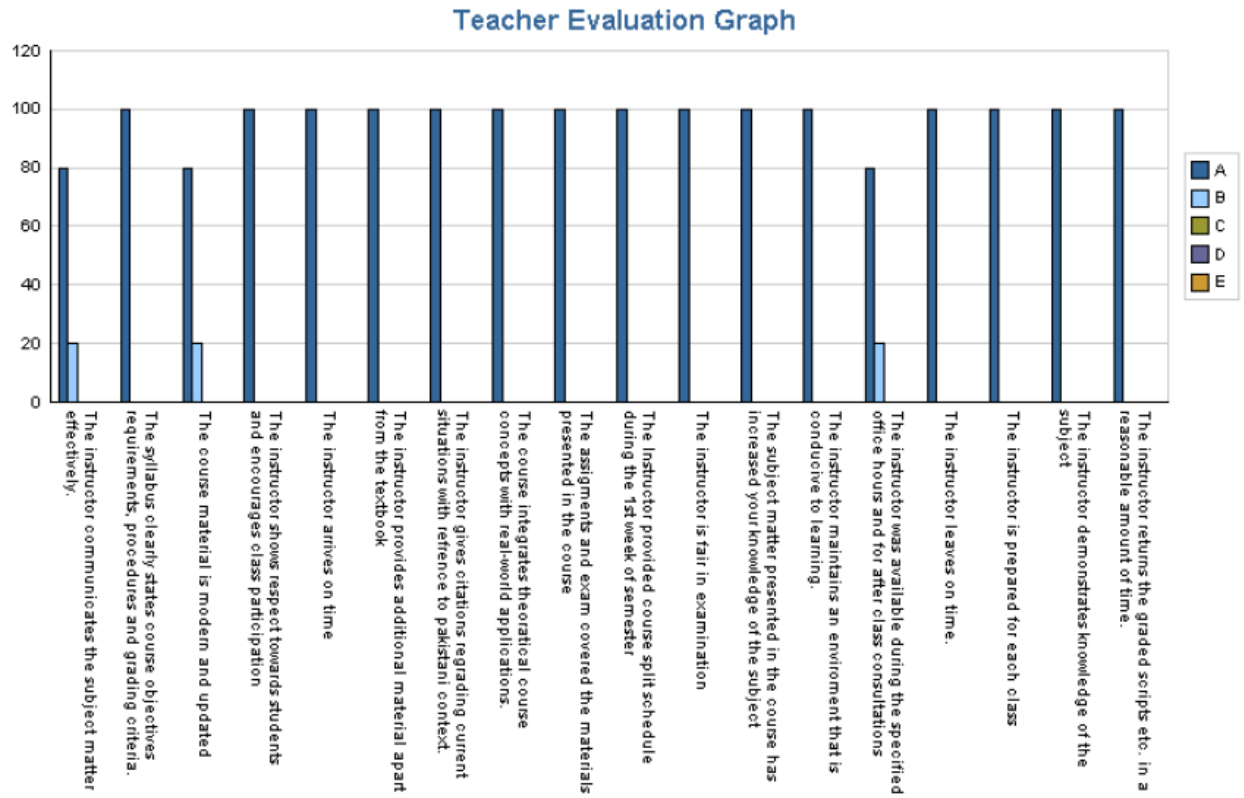

Fig: Teacher evaluation (Section-B) Manufacturing Engineering, Spring-16

Comments

The graph shows that the teacher was dedicated and conveys the knowledge effectively. He was punctual, friendly and gives respect to the students.

DR. M. UMAIR

Course: Engineering Mechanics

PERFORMA-1 (Section-A)

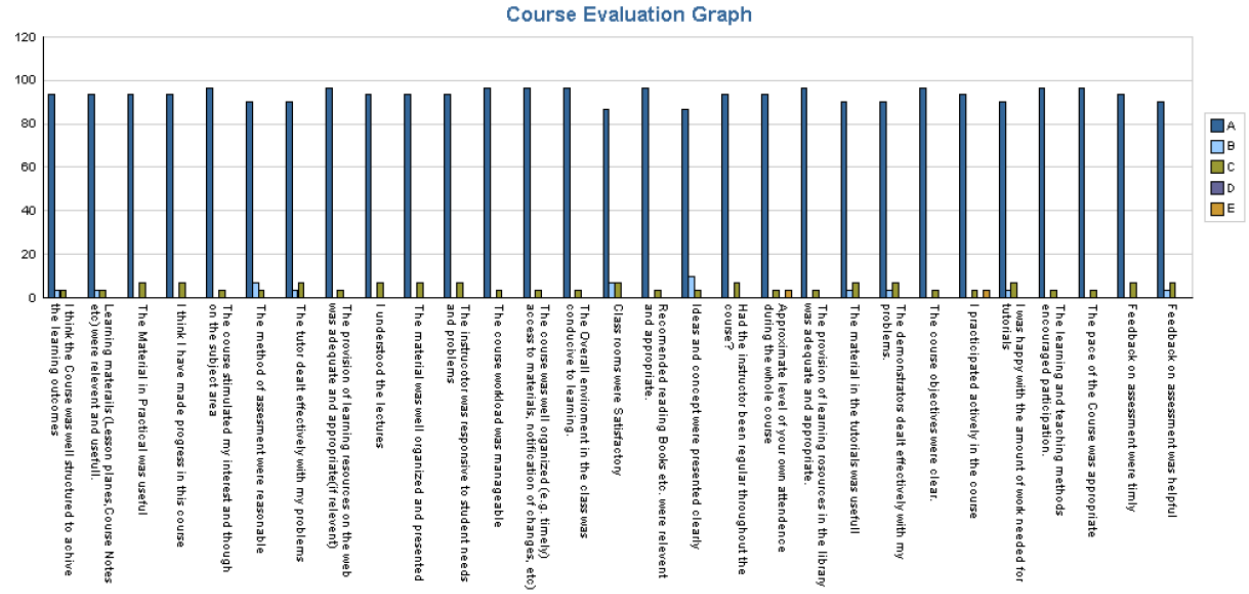

Fig: Course evaluation (Section-A) Engineering Mechanics, Spring-16

(Section-B)

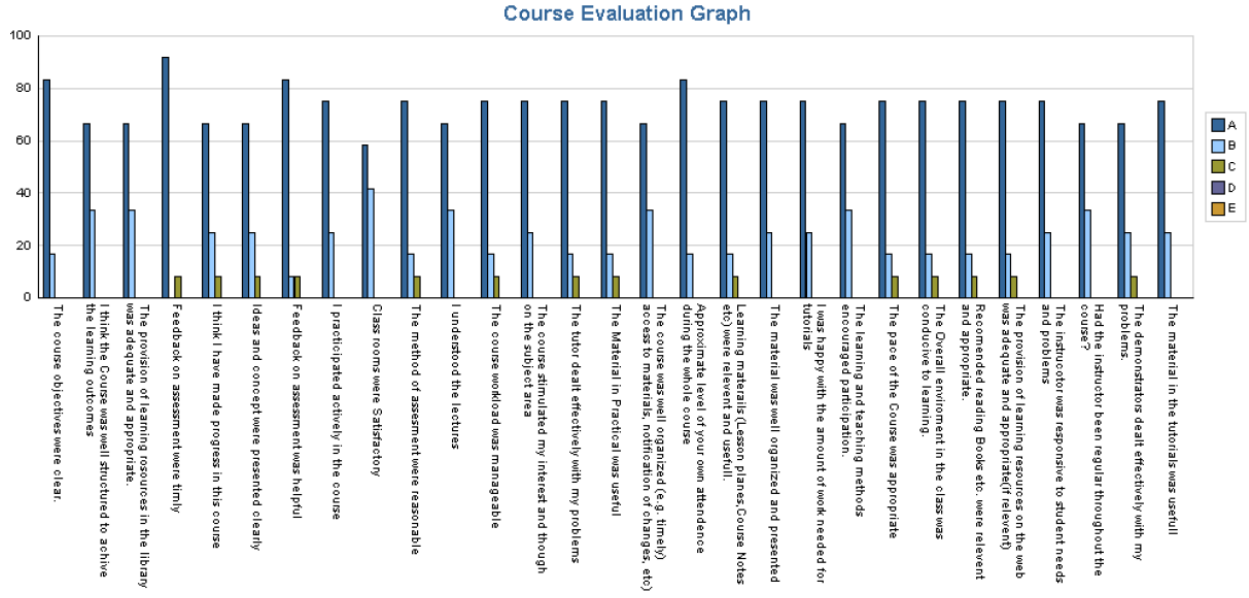

Fig: Course evaluation (Section-B) Engineering Mechanics, Spring-16

General Comments

The course was very important and conceptual. Students leant the impact of forces on moving and bodies at rest. They were satisfied with course contents.

PERFORMA-10 (Section-A)

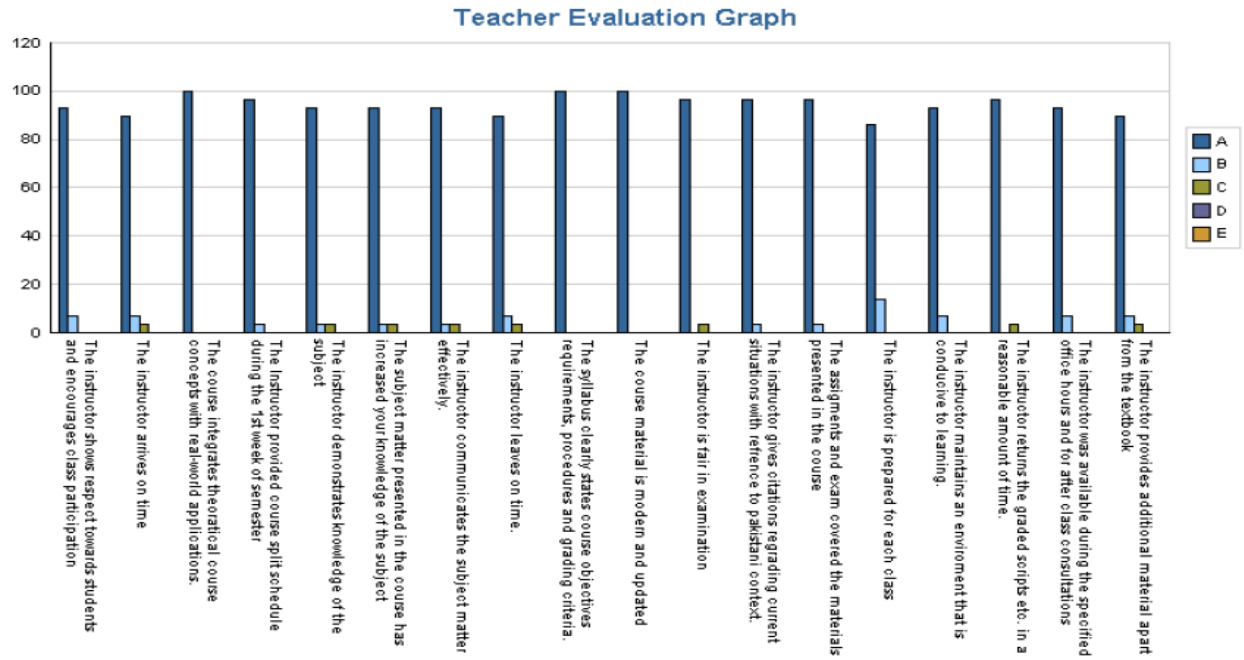

Fig: Teacher evaluation (Section-A) Engineering Mechanics, Spring-16

(Section-B)

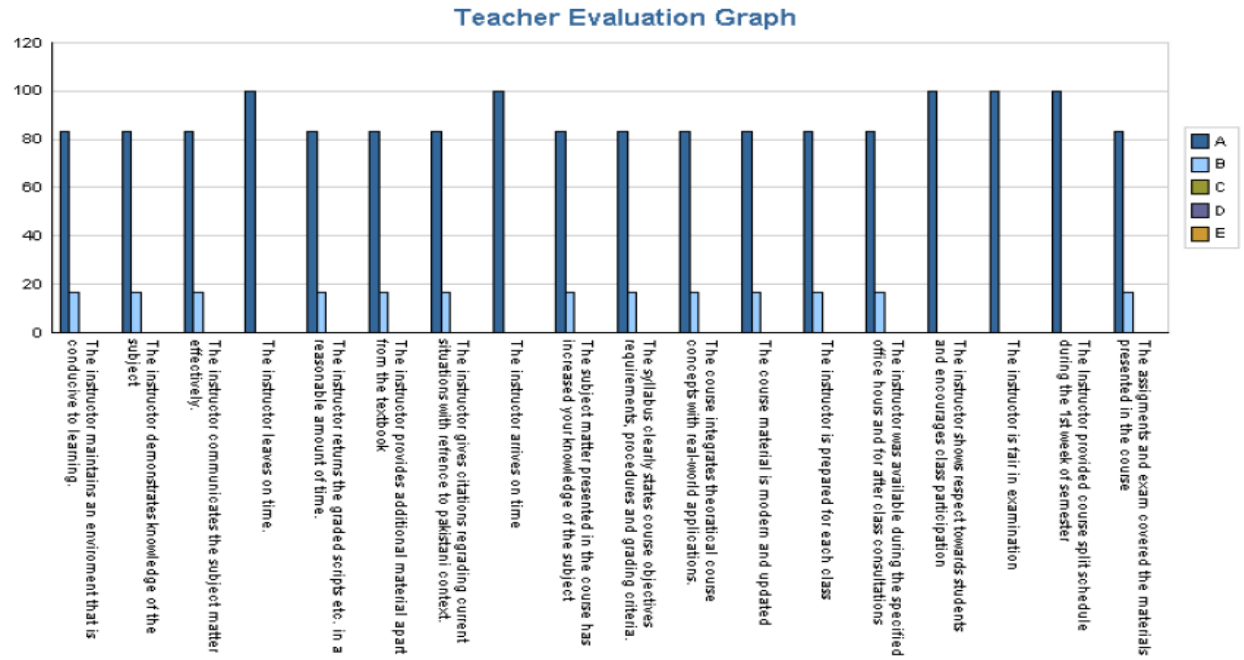

Fig: Teacher evaluation (Section-B) Engineering Mechanics, Spring-16

Comments

The teacher was dedicated and was able to teach this course in a good manner, with all attributes of preparation, communication skill, participation, including modern concepts, punctuality and behavior, etc.

MR. IKHLAQ AHMAD

Course: Computer Aided Design

PERFORMA-1 (Section-A)

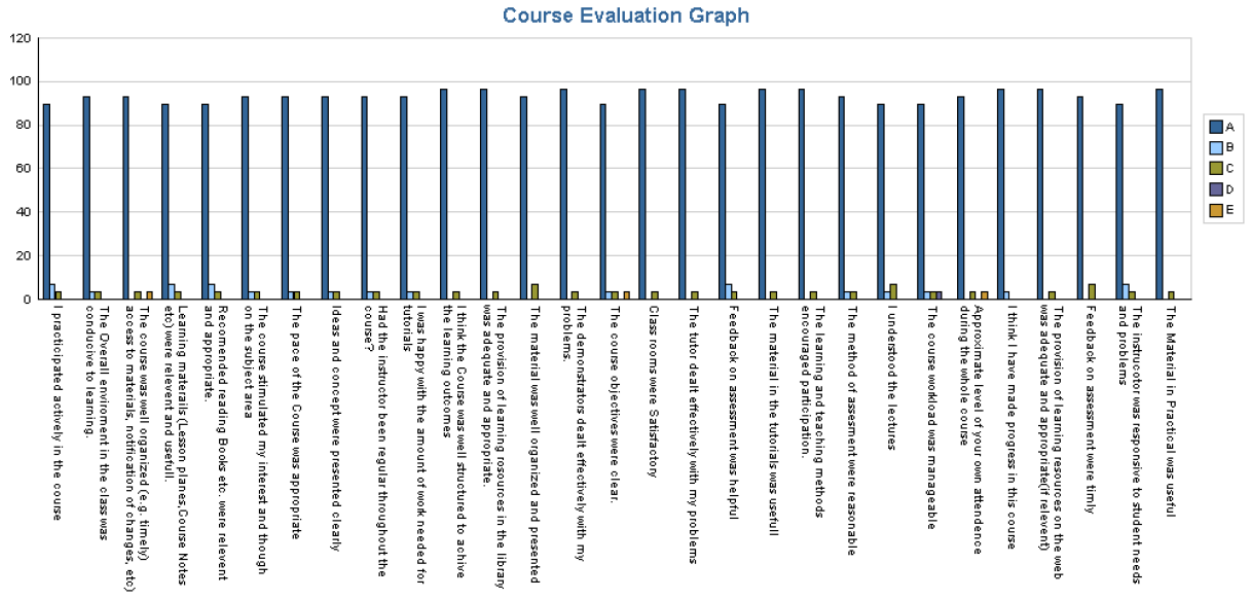

Fig: Course evaluation (Section-A) Computer Aided Design, Spring-16

General Comments

The course provides the technical knowledge of engineering drawing. They developed their skills on AutoCAD and were satisfied with course contents.

PERFORMA-10 (Section-A)

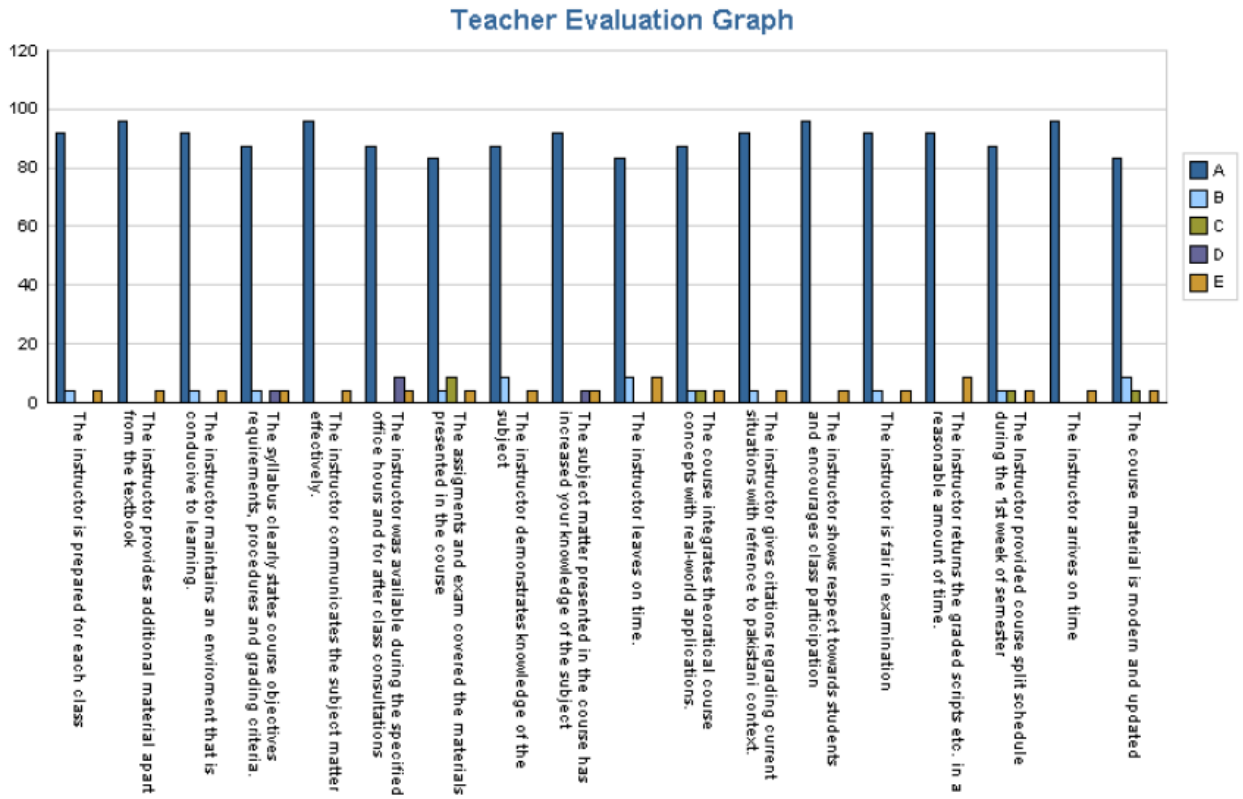

Fig: Teacher evaluation (Section-A) Computer Aided Design, Spring-16

General Comments/Suggestions

The graph shows that the teacher was dedicated and taught the course effectively. Students were satisfied with course contents.

MS TEHMINA RASHID

Course: Computer Aided Design

PERFORMA-1 (Section-B)

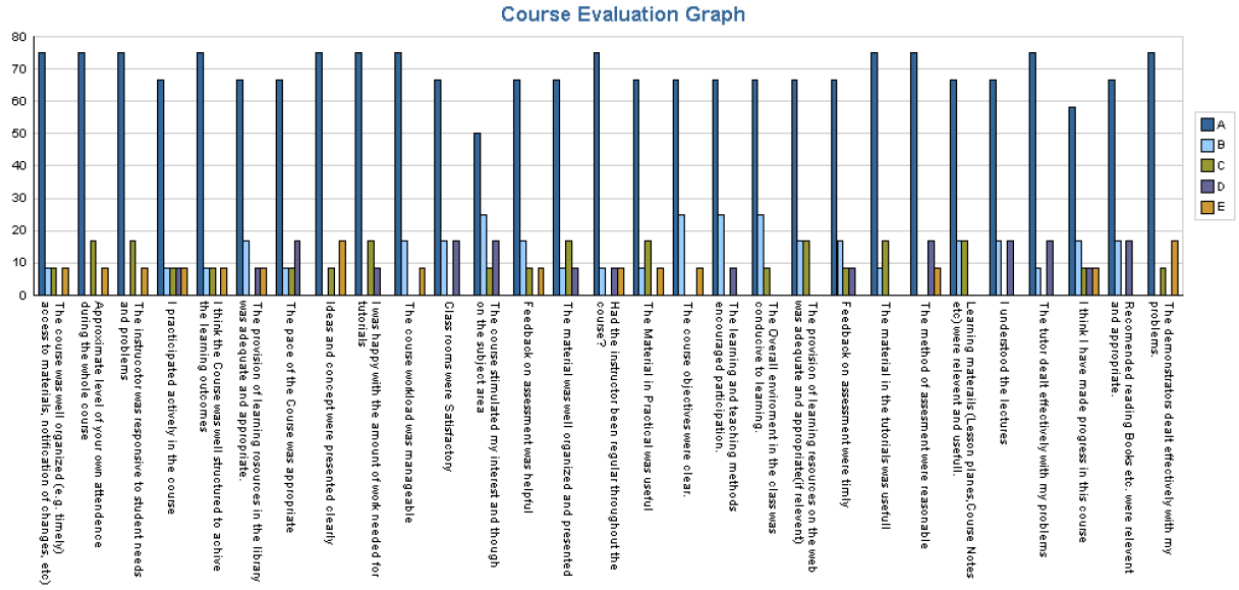

Fig: Course evaluation (Section-B) Computer Aided Design, Spring-16

General Comments

The course provides the technical knowledge of engineering drawing. They developed their skills on AutoCAD and were satisfied with course contents.

PERFORMA-10 (Section-B)

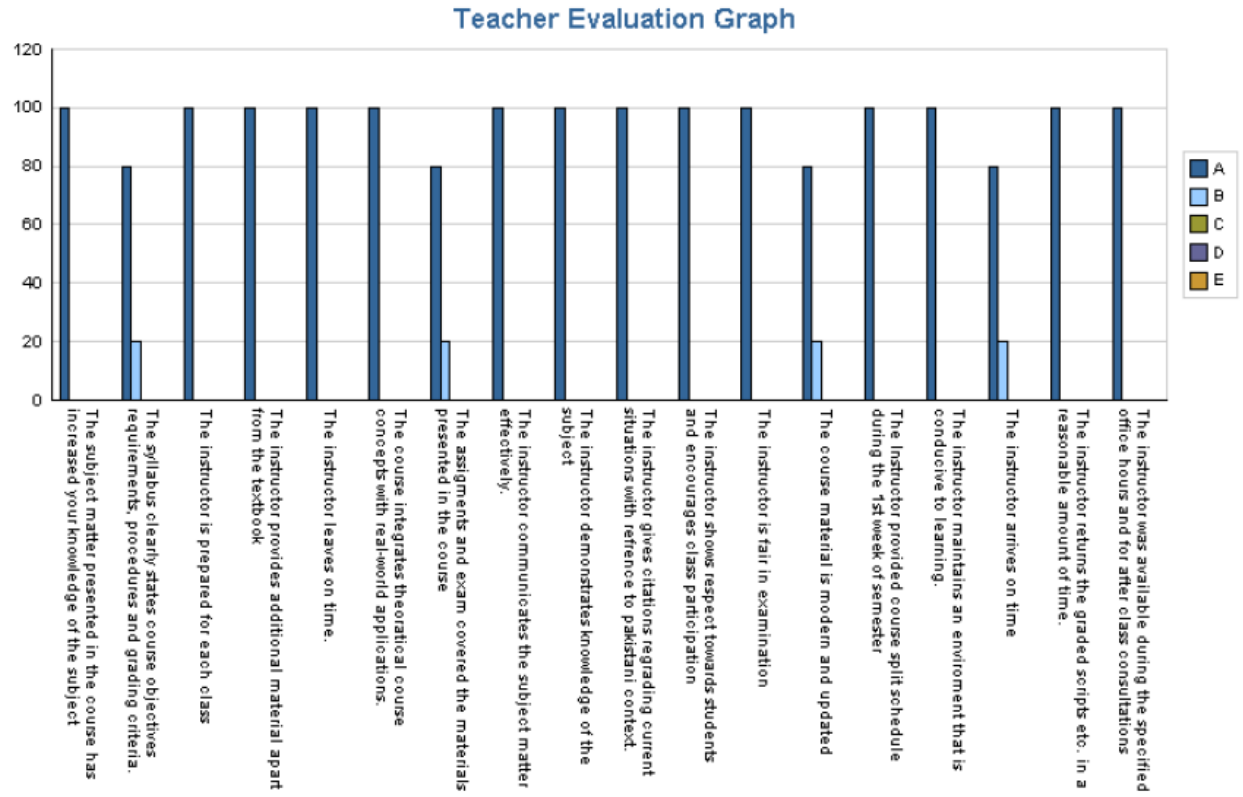

Fig: Teacher evaluation (Section-B) Computer Aided Design, Spring-16

General Comments/Suggestions

The graph shows that the teacher was dedicated and taught the course effectively. Students were satisfied with course contents.

MS TEHMINA RASHID

Course: Manufacturing Engineering

PERFORMA-1 (Section-A)

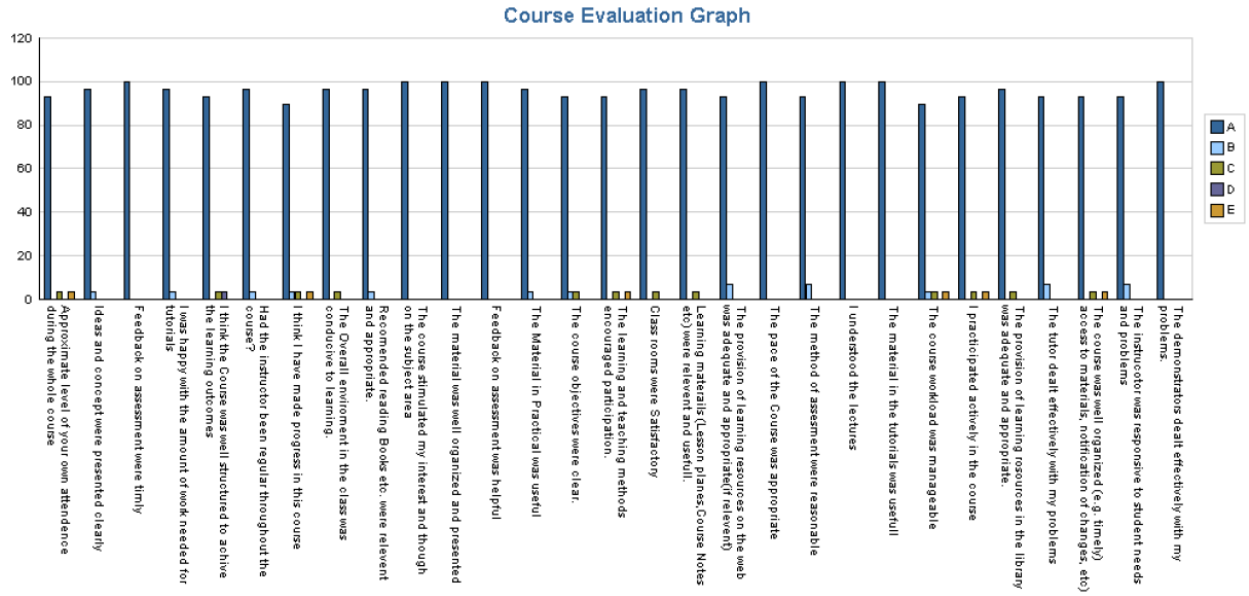

Fig: Course evaluation (Section-A) Manufacturing Engineering, Spring-16

General Comments

The course provides the technical knowledge to the students. The students leant about the different machines and tools used for manufacturing. Students were satisfied with course contents.

PERFORMA-10 (Section-A)

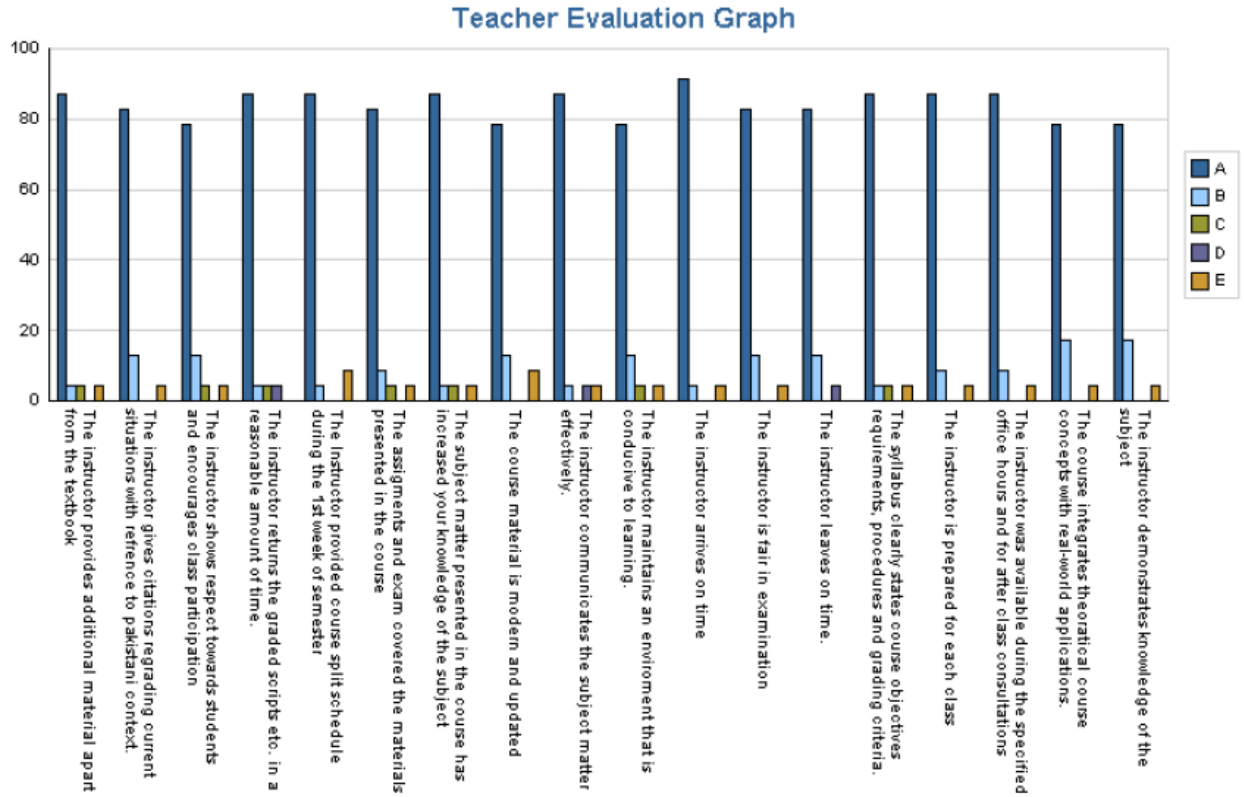

Fig: Teacher evaluation (Section-A) Manufacturing Engineering, Spring-16

General Comments/Suggestions

The graph shows that the teacher was dedicated and was able to teach this course in a good manner, with all attributes of preparation, communication skill, participation, concepts, punctuality and behavior, etc.

B.SC AGRI. ENGG. 4th SEMESTER

PROF. DR. M. YASIN

Course: Farm Power

PERFORMA-1 (Section-B)

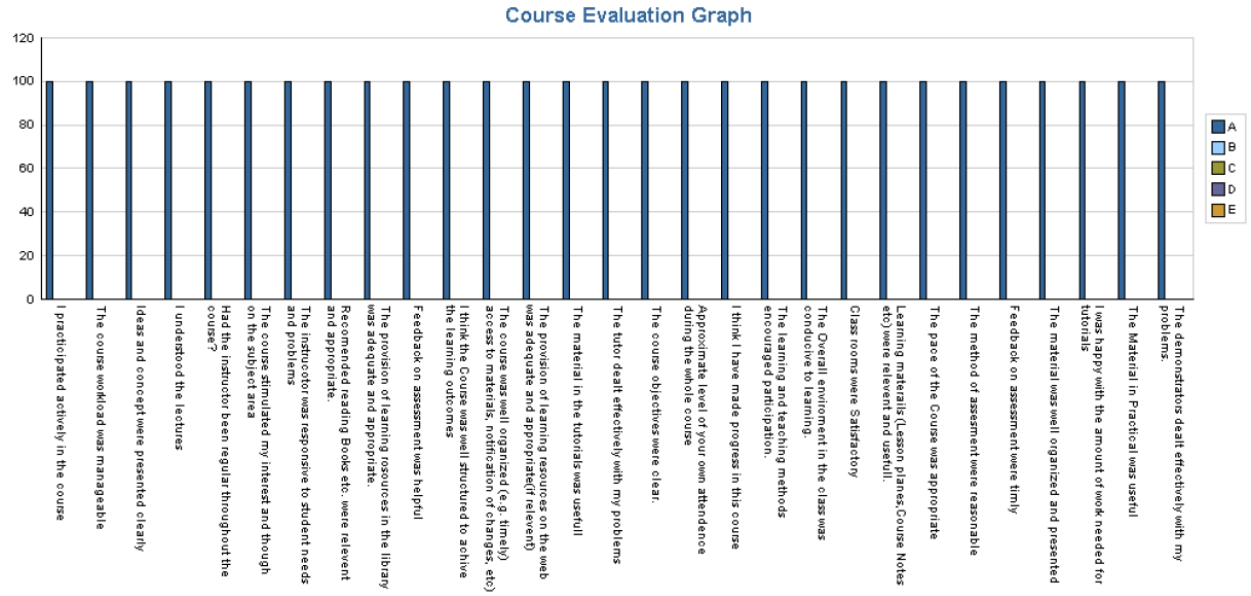

Fig: Course evaluation (Section-B) Farm Power, Spring-16

General Comments

The course was very importing regarding mechanize farming. The instructor has great experience in this field and he taught this course very effectively. The students learnt useful knowledge and were satisfied with course objectives and contents.

PERFORMA-10 (Section-B)

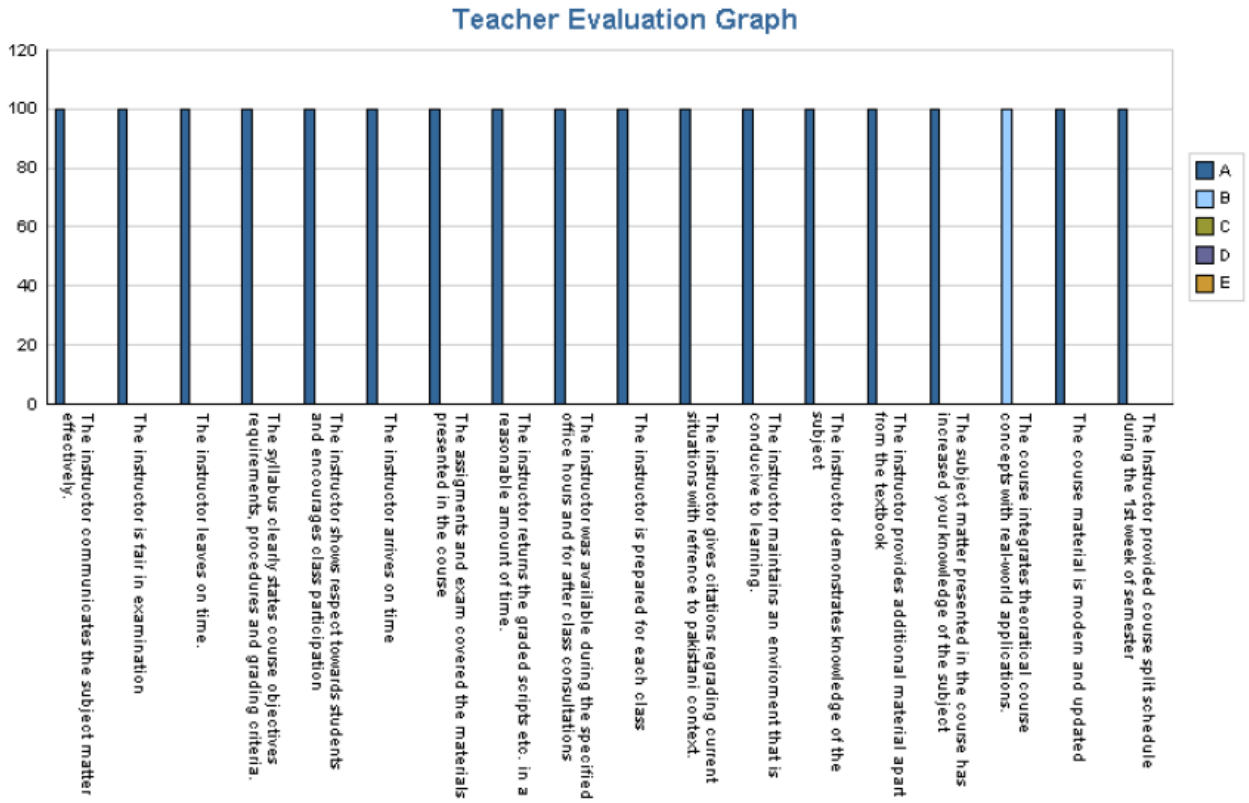

Fig: Teacher evaluation (Section-B) Farm Power, Spring-16

Comments

The graph shows that the teacher was dedicated and was able to teach this course in a good manner, with all attributes of preparation, communication skill, participation, concepts, punctuality and behavior, etc.

MR. ZIA UL HAQ

Course: Landscape Engineering

PERFORMA-1 (Section-A)

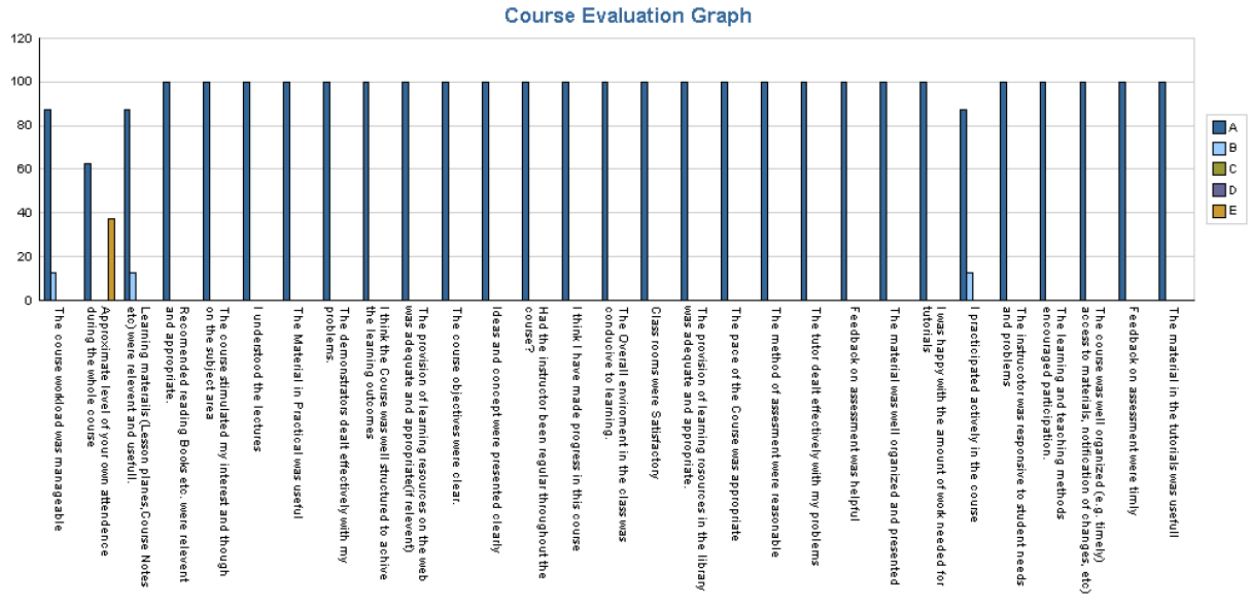

Fig: Course evaluation (Section-A) Landscape Engineering, Spring-16

(Section-B)

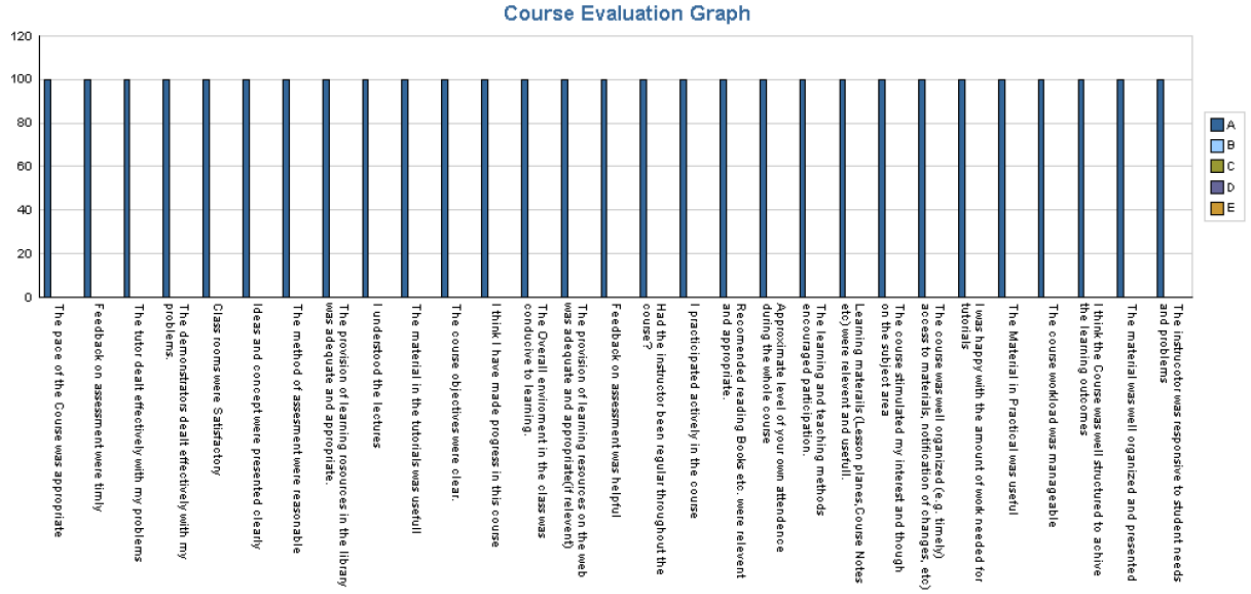

Fig: Course evaluation (Section-B) Landscape Engineering, Spring-16

General Comments

The course was interesting and student leant practical application of engineering in landscaping. They were satisfied with course contents.

PERFORMA-10 (Section-A)

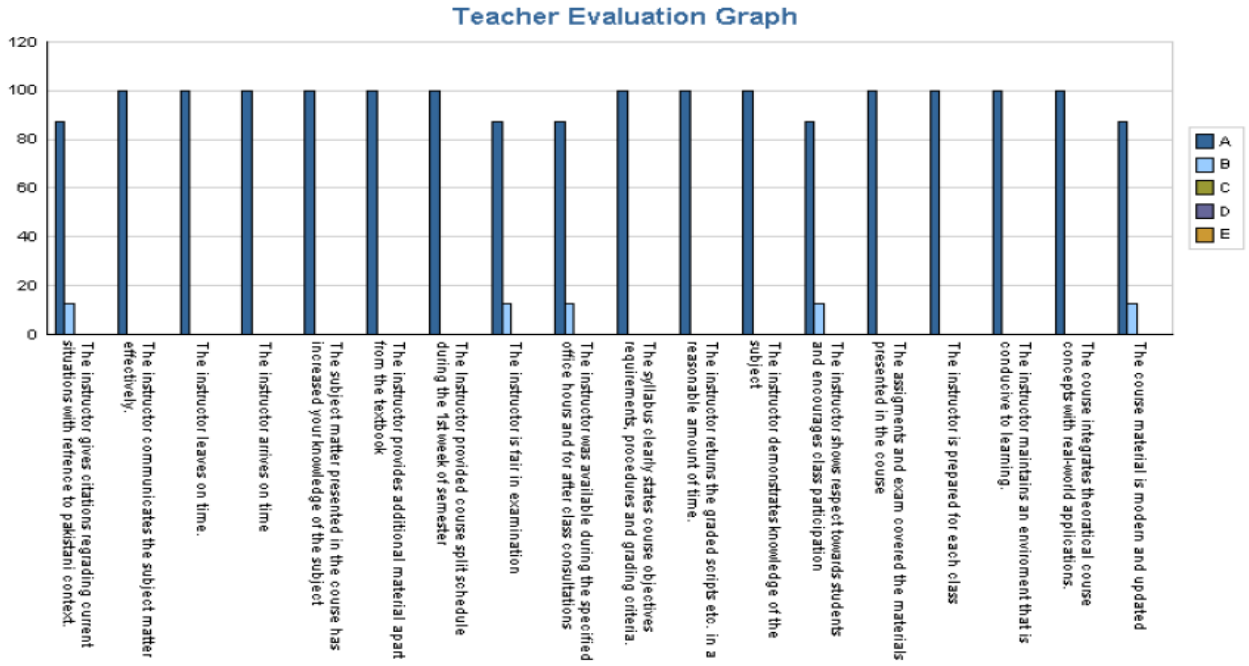

Fig: Teacher evaluation (Section-A) Landscape Engineering, Spring-16

(Section-B)

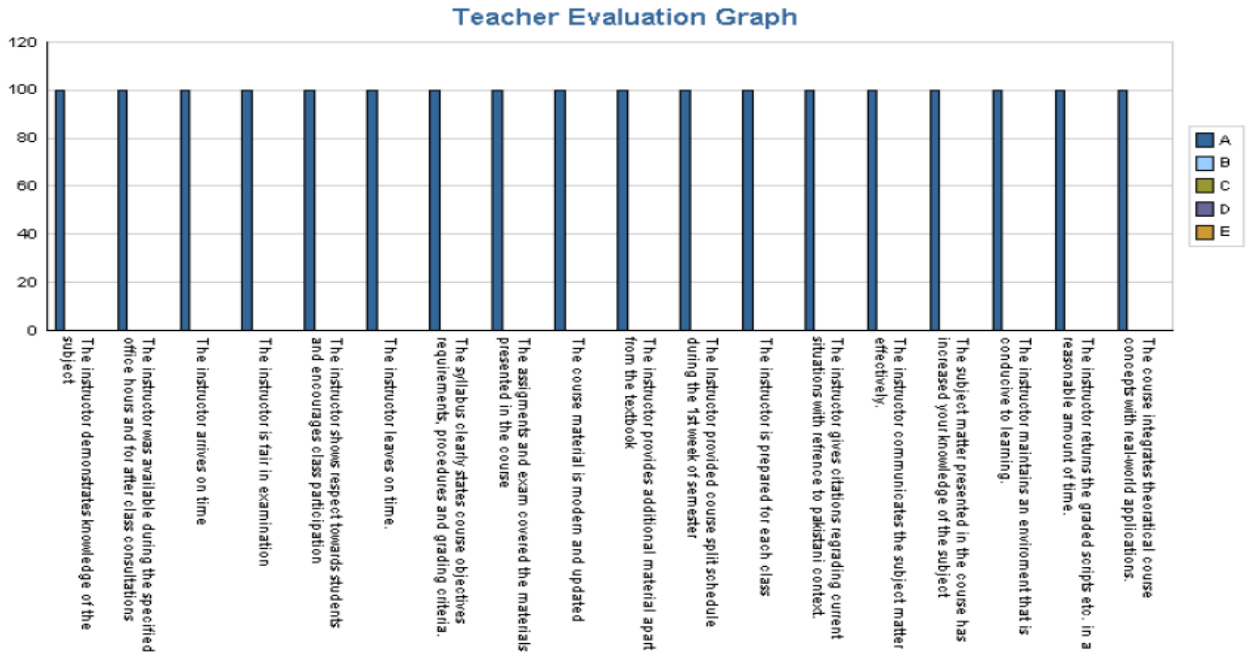

Fig: Teacher evaluation (Section-B) Landscape Engineering, Spring-16

Comments

The graph shows that the teacher was dedicated and conveys the knowledge effectively. He was punctual, friendly and gives respect to the students.

MR. M. ASIM

Course: Farm Structure & Materials

PERFORMA-1 (Section-A)

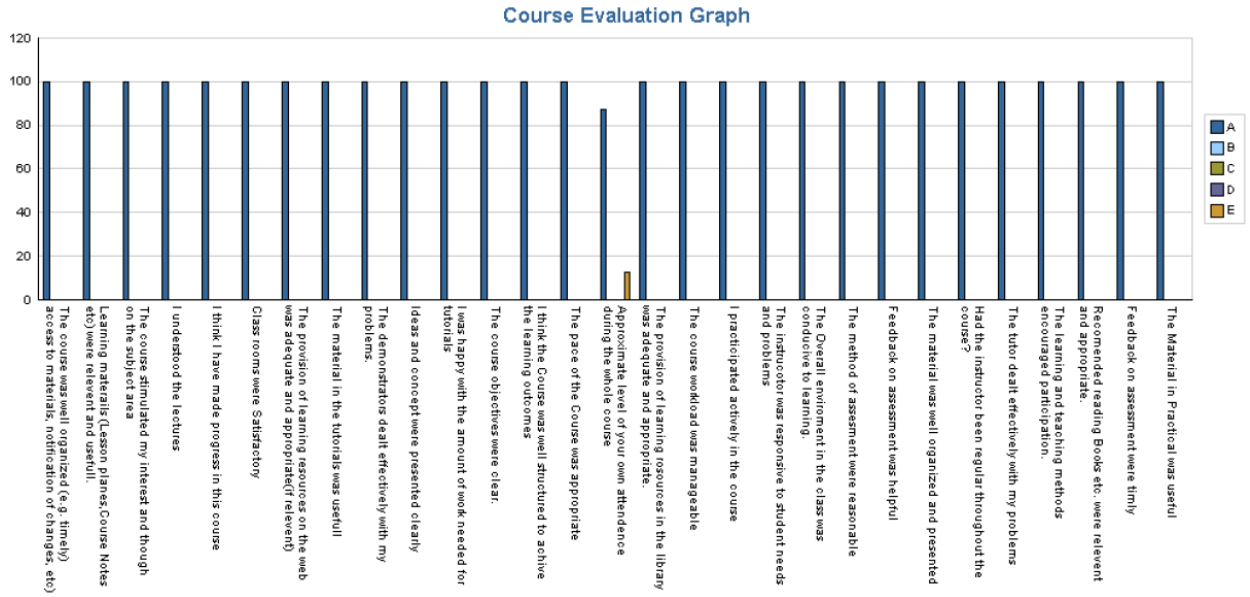

Fig: Course evaluation (Section-A) Farm Structure & Materials, Spring-16

(Section-B)

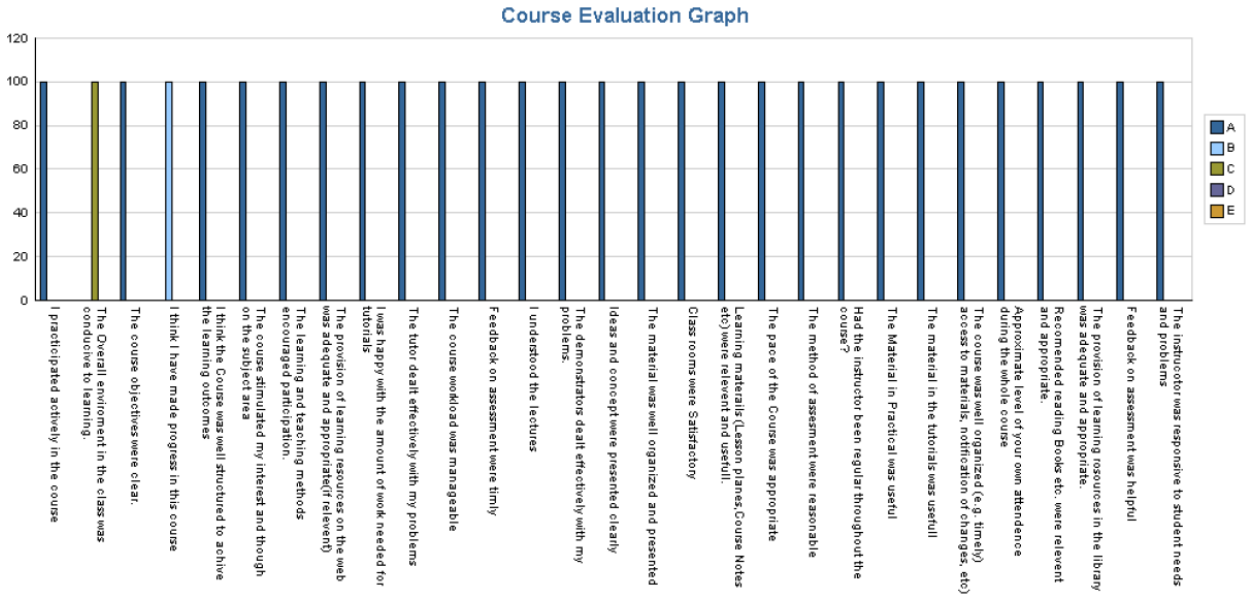

Fig: Course evaluation (Section-B) Farm Structure & Materials, Spring-16

General Comments

The students learnt useful knowledge about design of farms structures and selection of materials. They were satisfied with course objectives and contents.

PERFORMA-10 (Section-A)

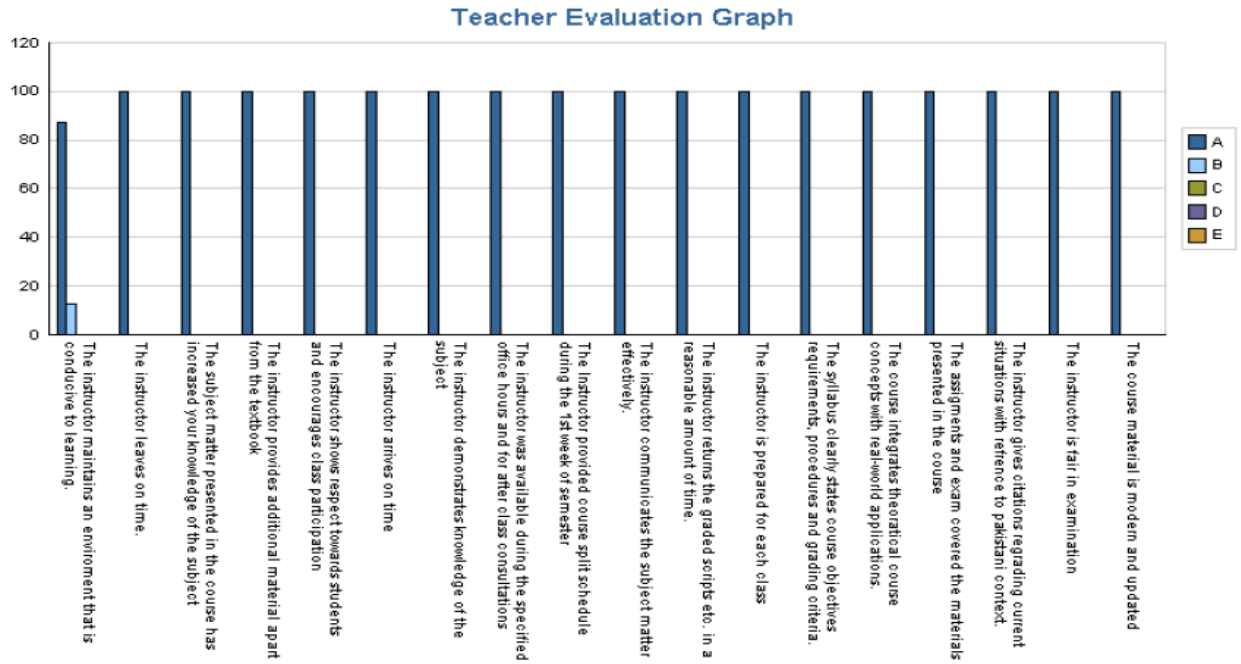

Fig: Teacher evaluation (Section-A) Farm Structure & Materials, Spring-16

(Section-B)

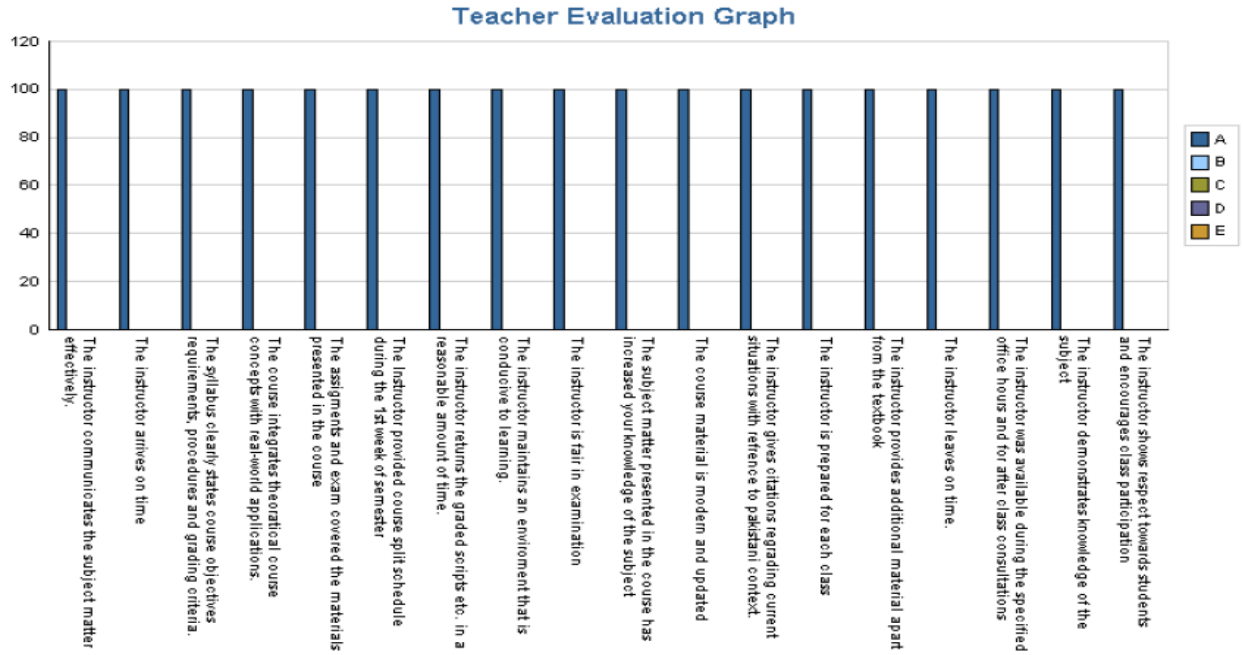

Fig: Teacher evaluation (Section-B) Farm Structure & Materials, Spring-16

Comments

The graph shows that the teacher was dedicated and conveys the knowledge effectively. He was punctual, friendly and gives respect to the students.

MR. M. ASIM

Course: Mechanics of Materials

PERFORMA-1 (Section-A)

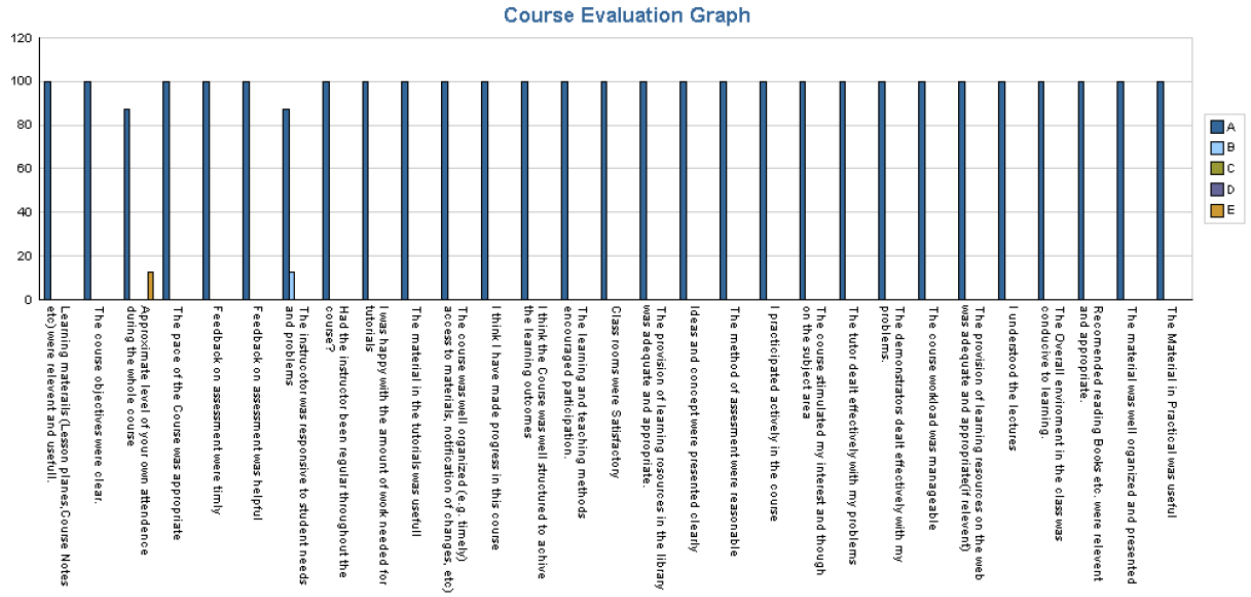

Fig: Course evaluation (Section-A) Mechanics of Materials, Spring-16

(Section-B)

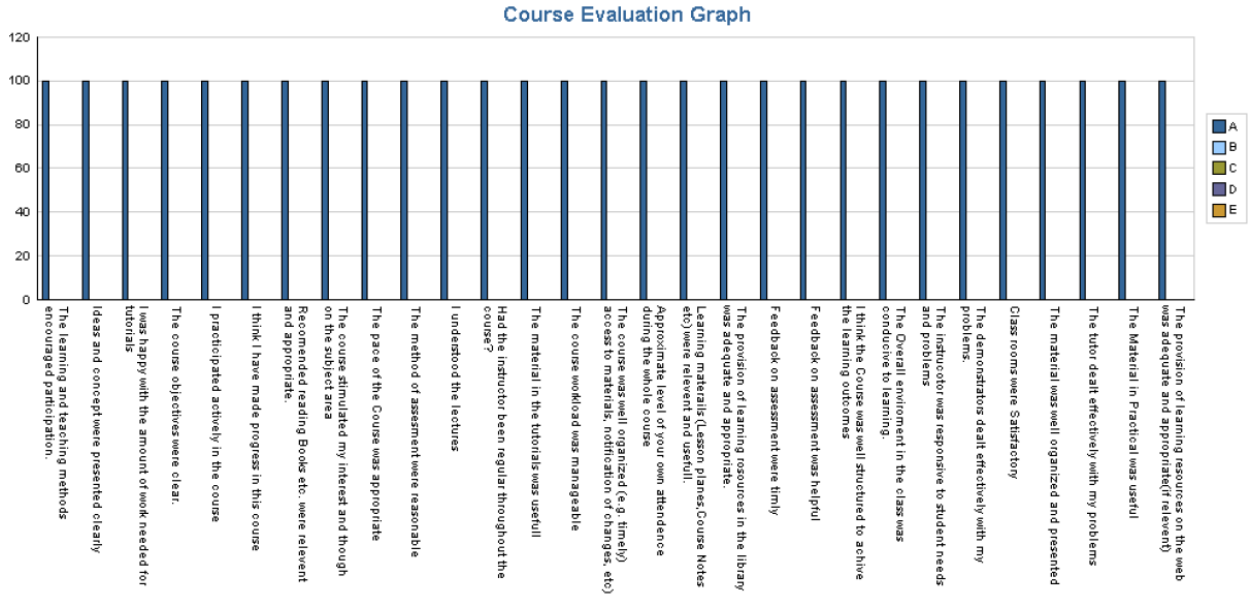

Fig: Course evaluation (Section-B) Mechanics of Materials, Spring-16

General Comments

The course provides imported knowledge and valuable information regarding force and load impact on structures and machines and failure of the structures due to load.

PERFORMA-10 (Section-A)

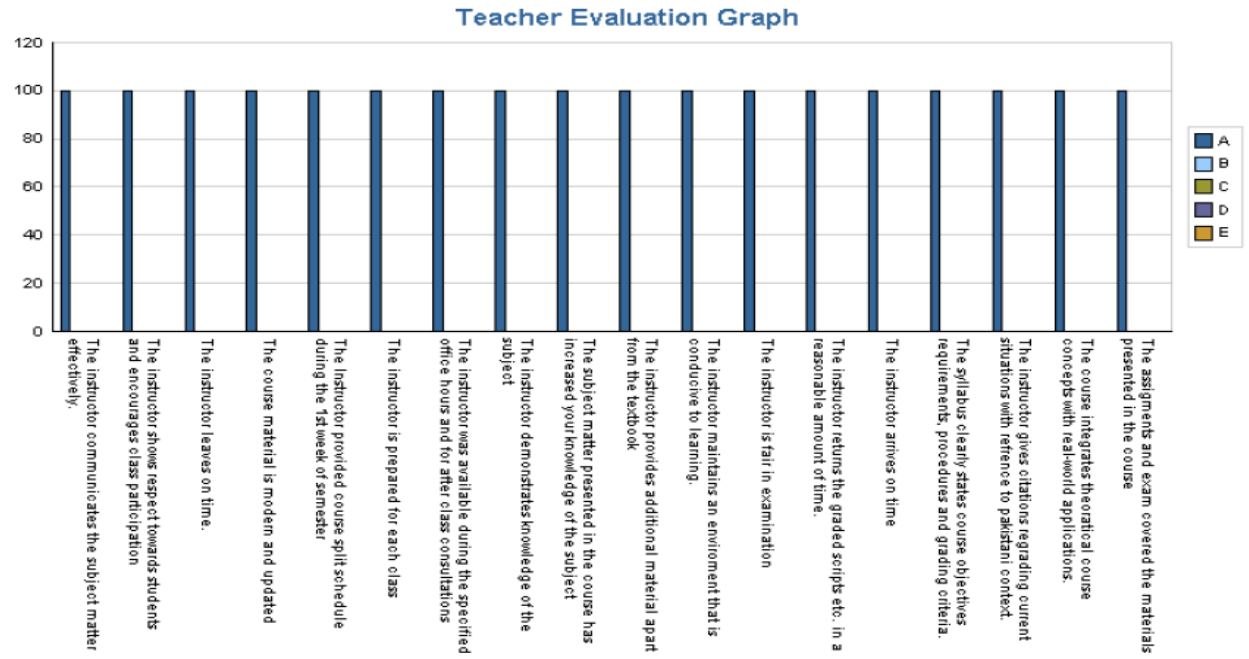

Fig: Teacher evaluation (Section-A) Mechanics of Materials, Spring-16

(Section-B)

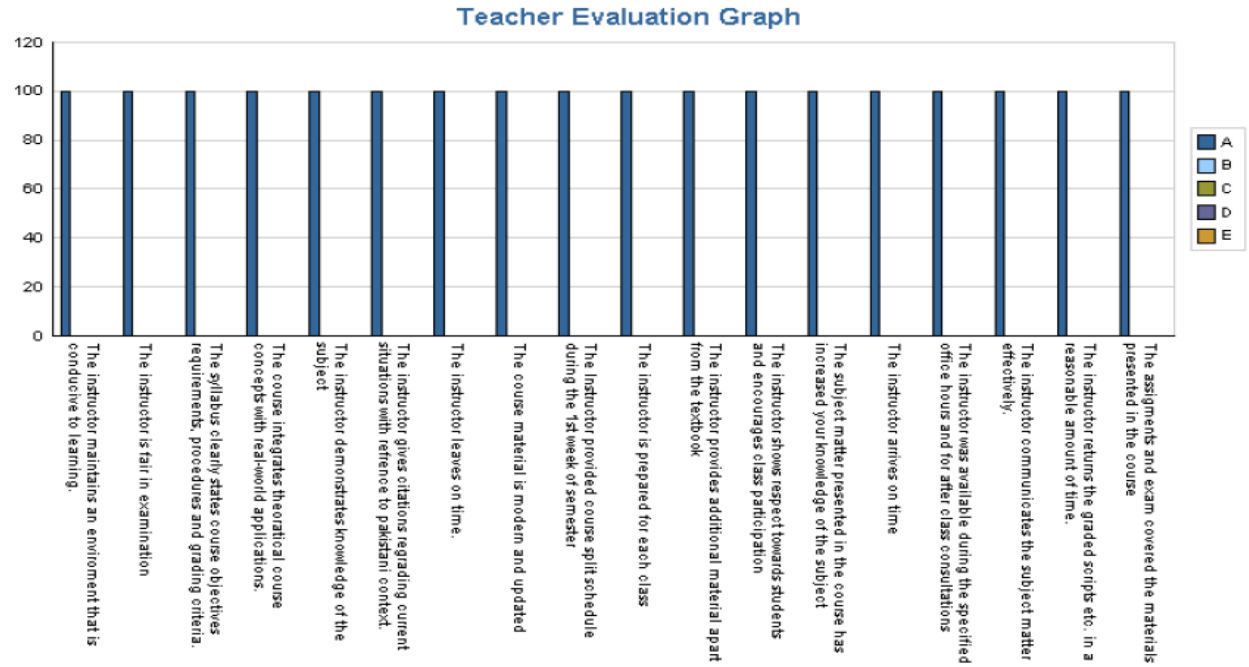

Fig: Teacher evaluation (Section-B) Mechanics of Materials, Spring-16

Comments/suggestions

The teacher was dedicated and was able to teach this course in a good manner, with all attributes of preparation, communication skill, participation, including modern concepts, punctuality and behavior, etc.

ENGR. M. USMAN

Course: Soil Mechanics

PERFORMA-1 (Section-A)

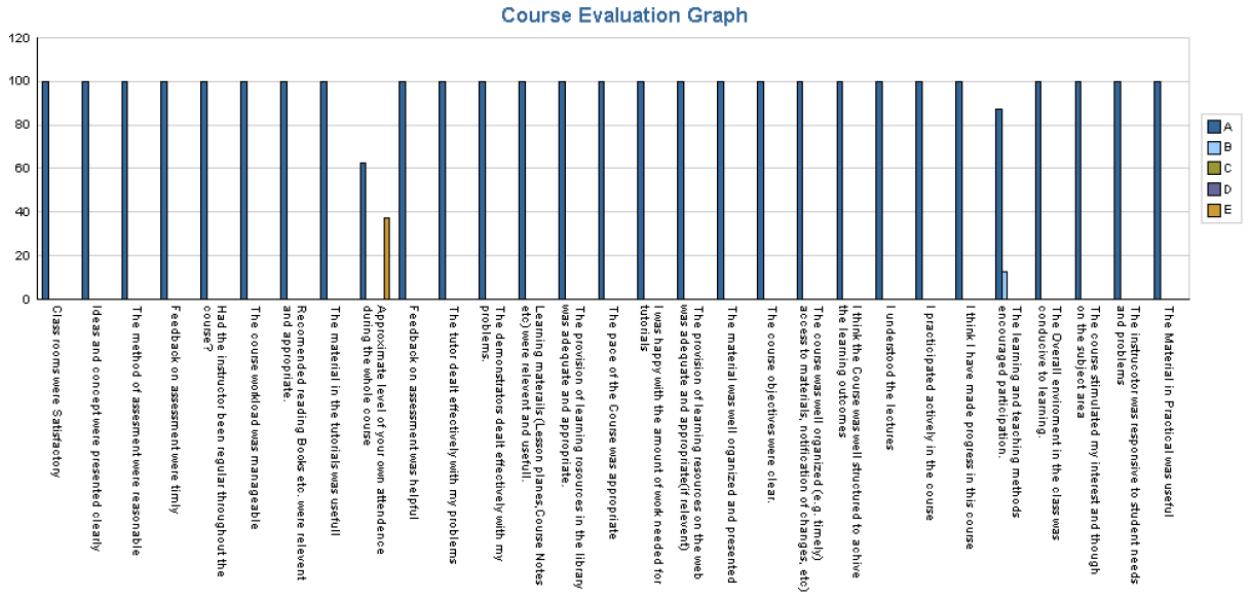

Fig: Course evaluation (Section-A) Soil Mechanics, Spring-16

(Section-B)

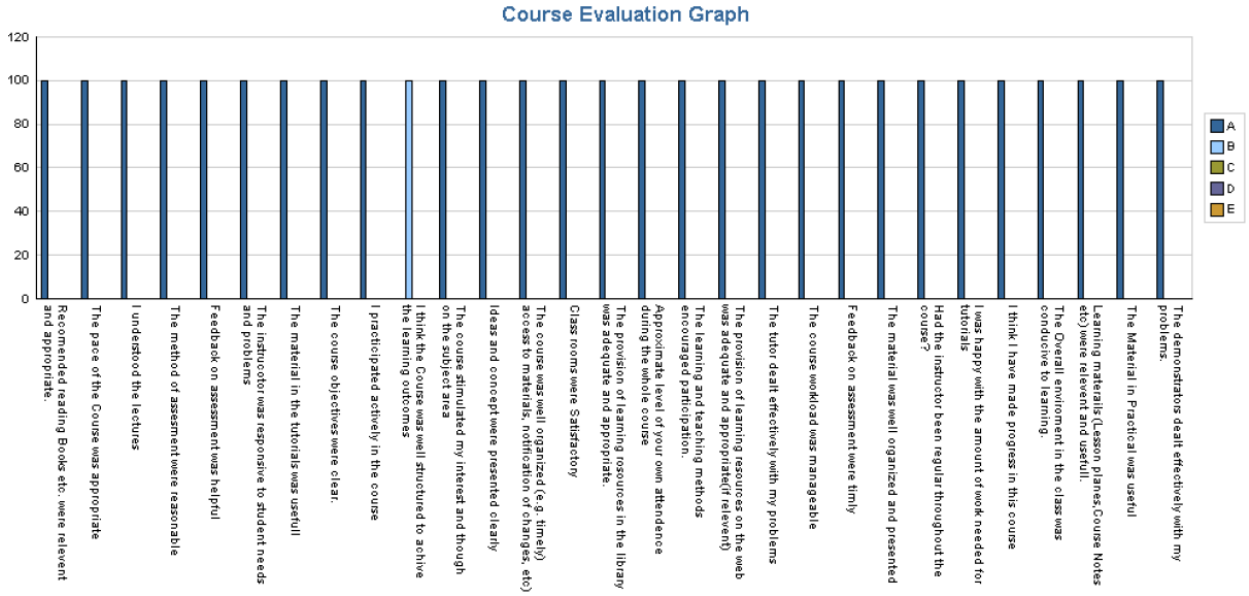

Fig: Course evaluation (Section-B) Soil Mechanics, Spring-16

General Comments

From this course the students leant useful knowledge regarding force impact of machinery and plant on the soil. Students were satisfied with course contents.

PERFORMA-10 (Section-A)

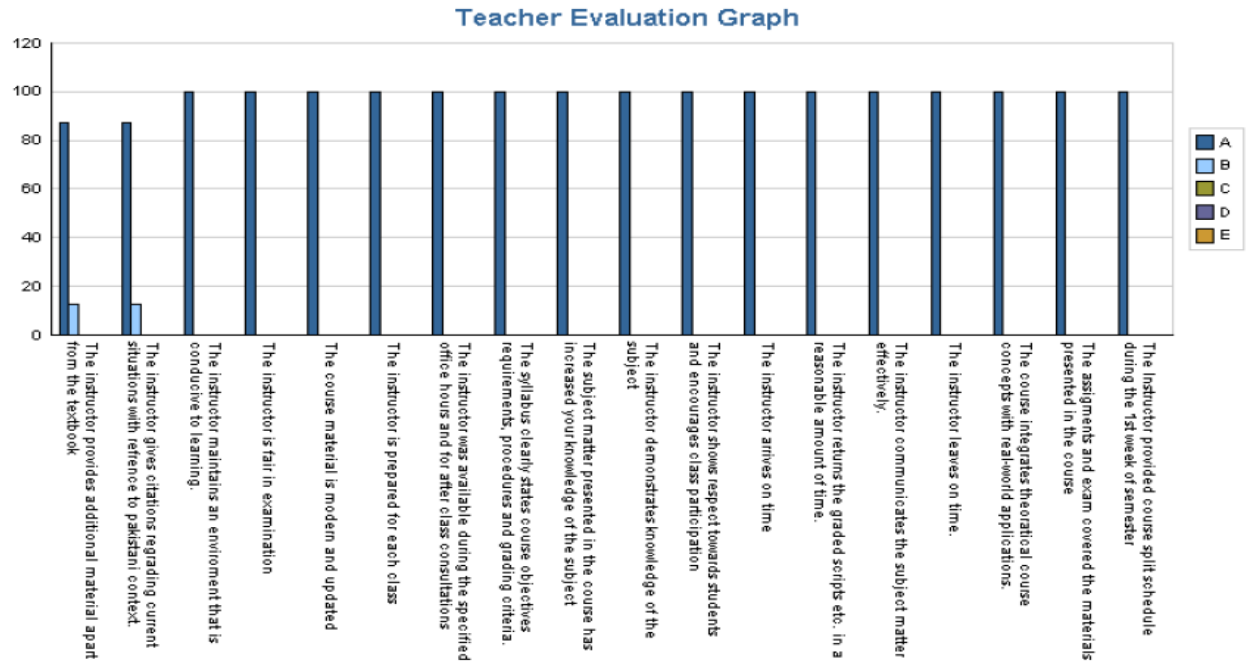

Fig: Teacher evaluation (Section-A) Soil Mechanics, Spring-16

(Section-B)

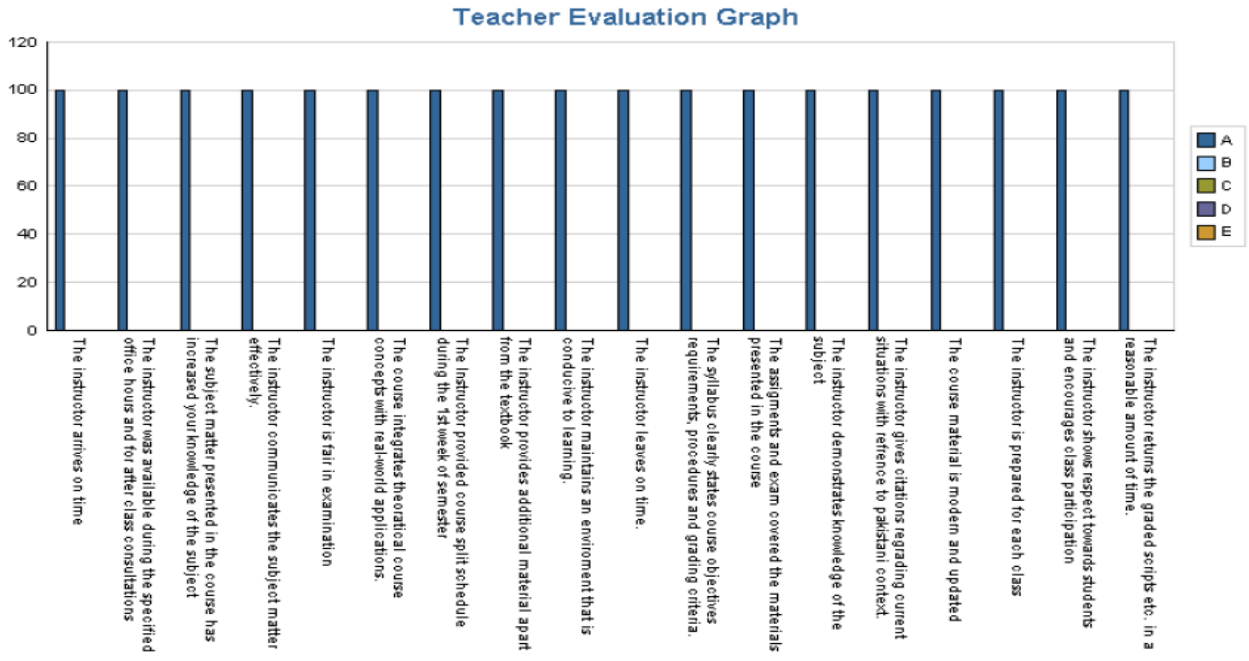

Fig: Teacher evaluation (Section-B) Soil Mechanics, Spring-16

General Comments/Suggestions

The graph shows that the teacher was dedicated and was able to teach this course in a good manner, with all attributes of preparation, communication skill, participation, including punctuality and behavior, etc.

MR. IKLHAQ AHMED

Course: Open Channel Hydraulics

PERFORMA-1 (Section-A)

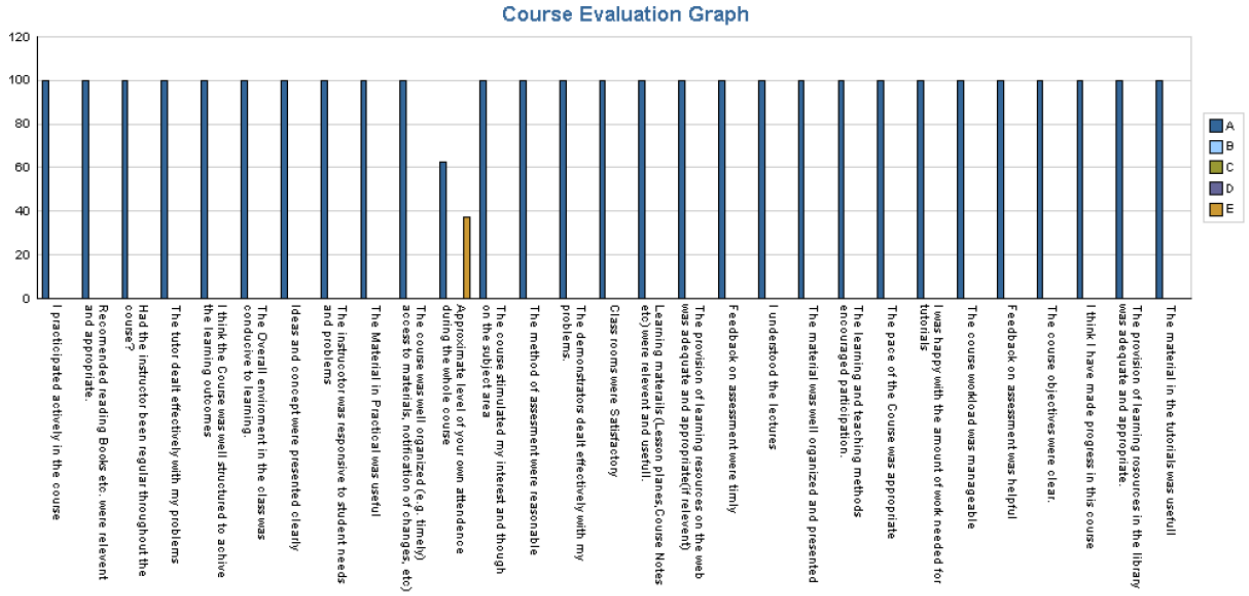

Fig: Course evaluation (Section-A) Open Channel Hydraulics, Spring-16

(Section-B)

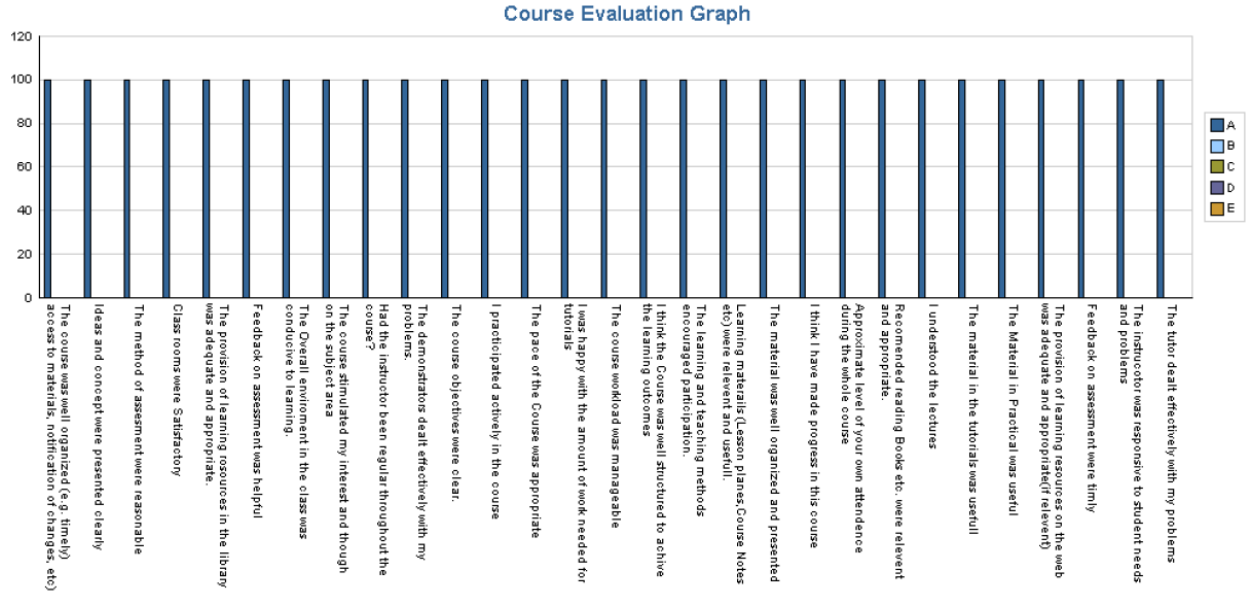

Fig: Course evaluation (Section-B) Open Channel Hydraulics, Spring-16

General Comments

The course was important and useful that provides the knowledge about canal and water course designing. Students were satisfied with course contents.

PERFORMA-10 (Section-A)

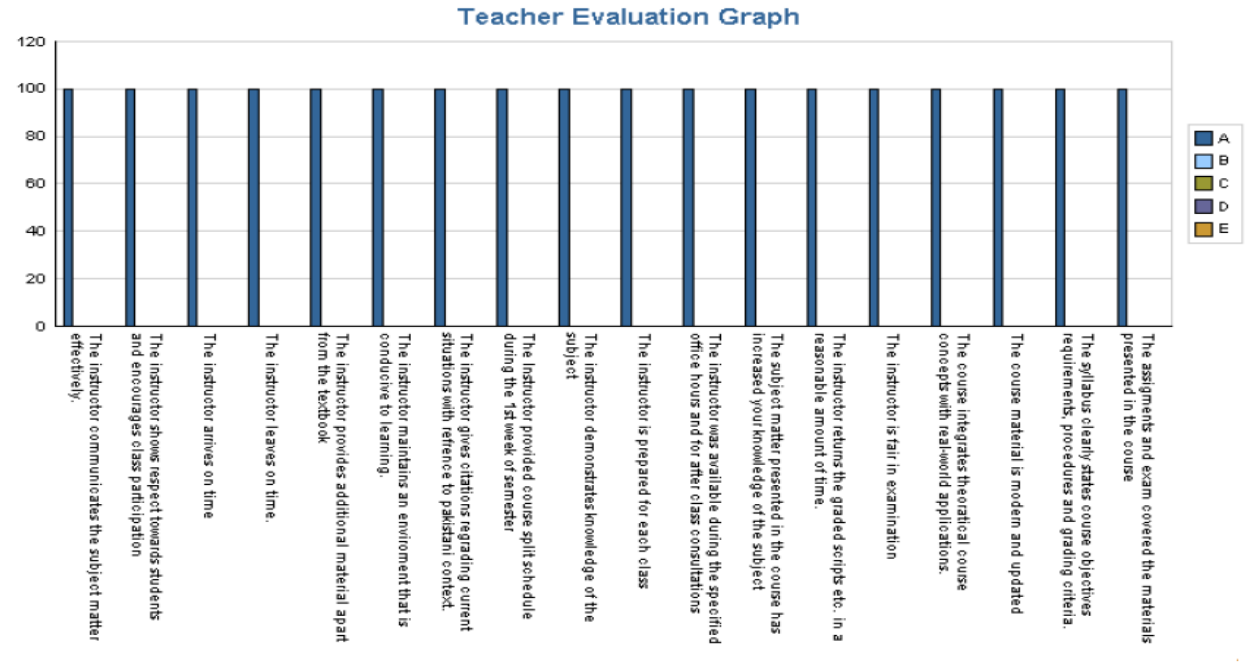

Fig: Teacher evaluation (Section-A) Open Channel Hydraulics, Spring-16

(Section-B)

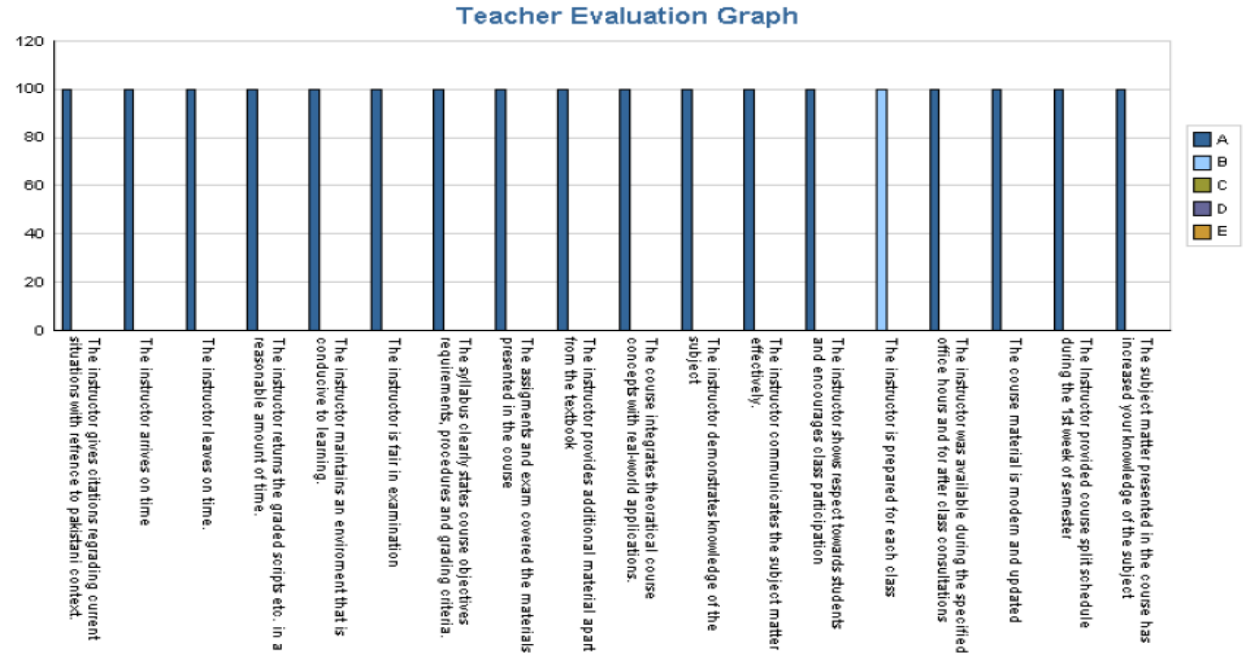

Fig: Teacher evaluation (Section-B) Open Channel Hydraulics, Spring-16

General Comments/Suggestions

The graph shows that the teacher was dedicated and was able to teach this course in a good manner, with all attributes of preparation, communication skill, participation, including modern concepts, punctuality and behavior, etc.

B.SC AGRI. ENGG. 6th SEMESTER

PROF. DR. M. YASIN

Course: Farm Machinery & Earth Moving Equipment

PERFORMA-1 (Section-A)

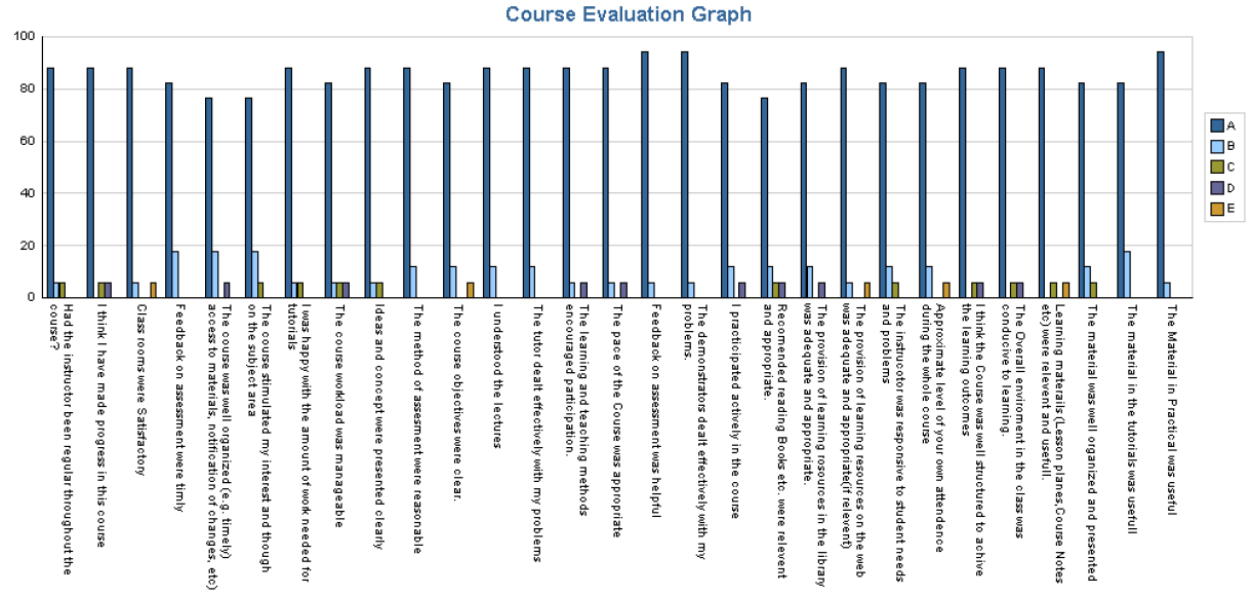

Fig: Course evaluation (Section-A) Farm Machinery & Earth Moving Equipment, Spring-16

(Section-B)

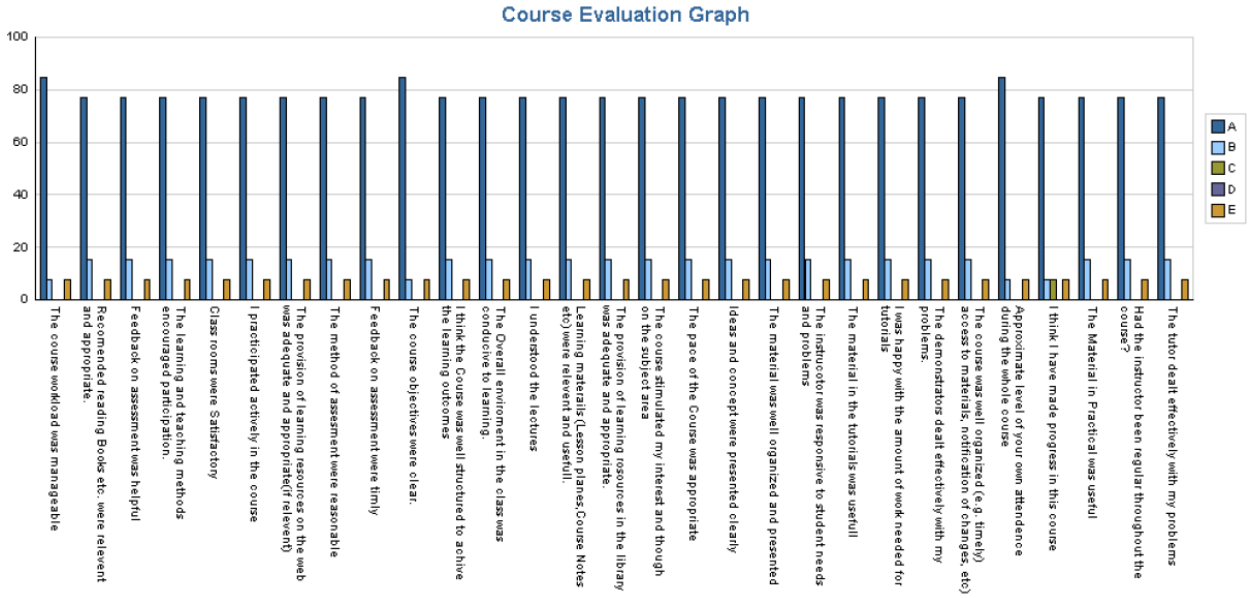

Fig: Course evaluation (Section-B) Farm Machinery & Earth Moving Equipment, Spring-16

General Comments

The course was very importing regarding mechanize farming. The instructor has great experience in this field and he taught this course very effectively. The students learnt useful knowledge and were satisfied with course objectives and contents.

PERFORMA-10 (Section-A)

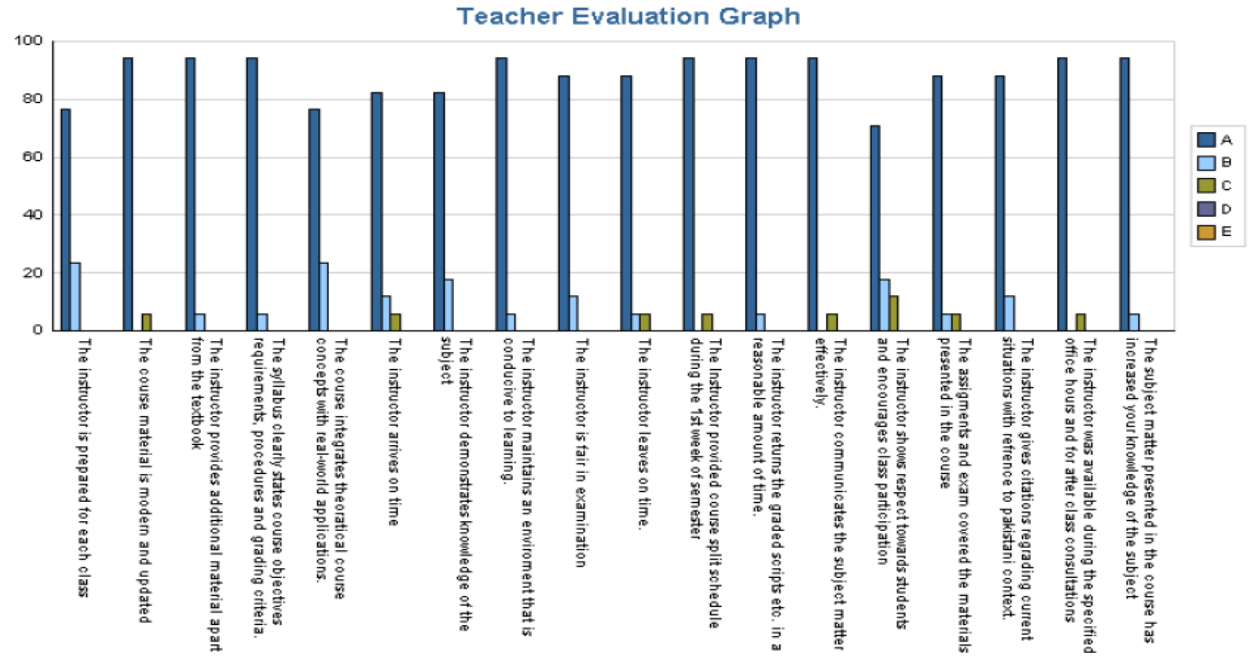

Fig: Teacher evaluation (Section-A) Farm Machinery & Earth Moving Equipment, Spring-16

(Section-B)

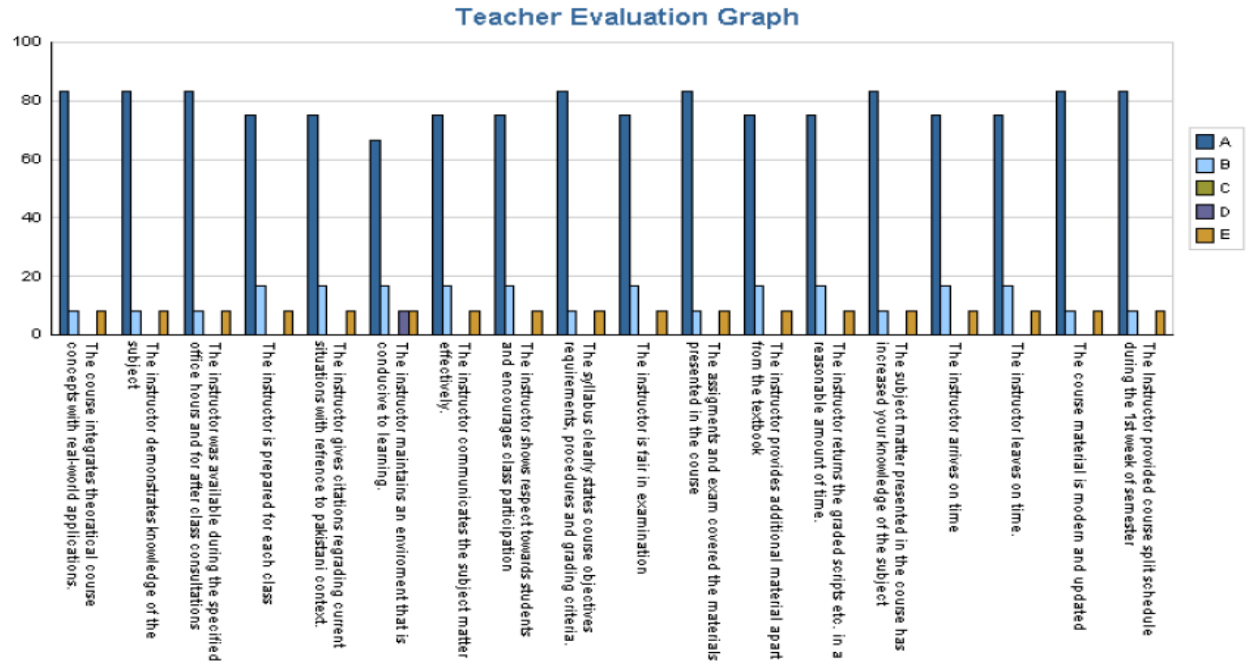

Fig: Teacher evaluation (Section-B) Farm Machinery & Earth Moving Equipment, Spring-16

Comments

The graph shows that the teacher was dedicated and conveys the knowledge effectively. He was friendly to the students.

MR. M. USMAN

Course: Soil & Water Conservation Engineering

PERFORMA-1 (Section-A)

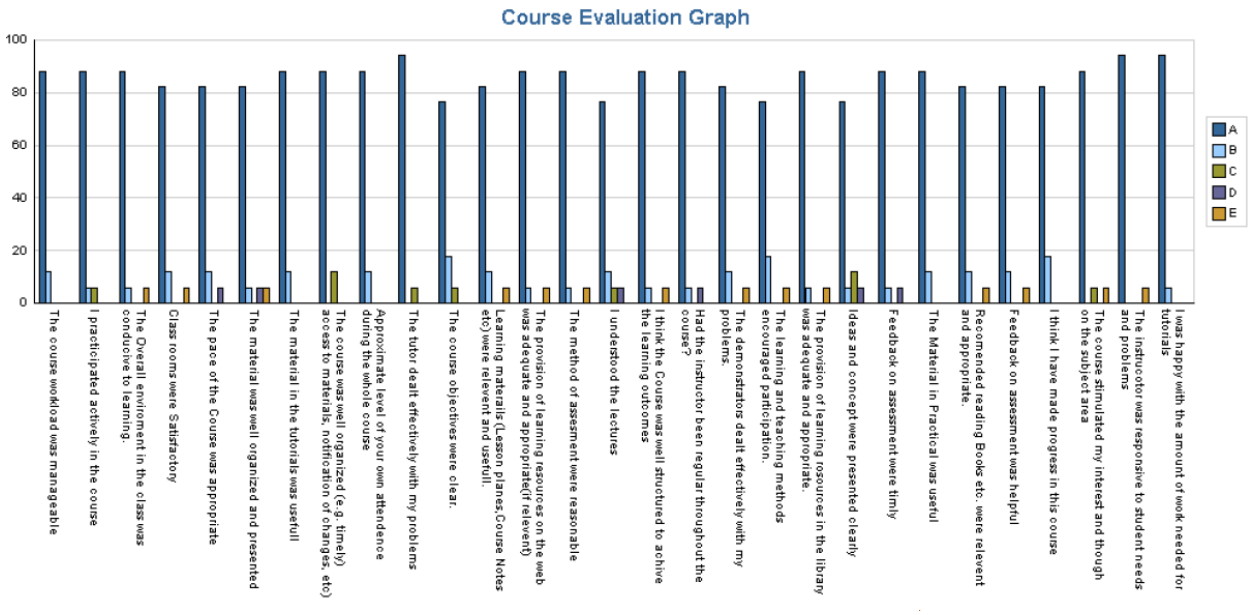

Fig: Course evaluation (Section-A) Soil & Water Conservation Engineering,Spring-16

General Comments

The course was about different techniques and methods to conserve soil and water. Students enjoy the course and gained valuable knowledge.

PERFORMA-10 (Section-A)

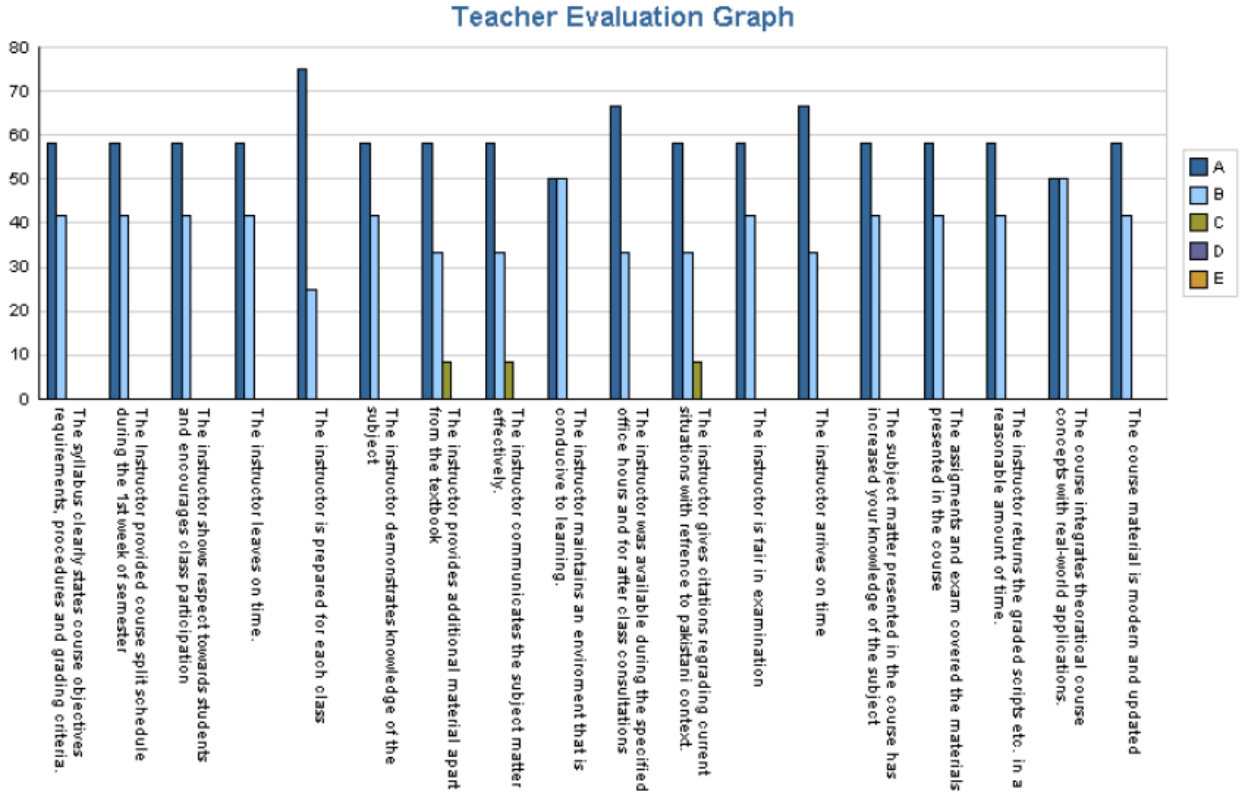

Fig: Teacher evaluation (Section-A) Soil & Water Conservation Engineering, Spring-16

Comments

The graph shows that the teacher was dedicated and conveys the knowledge effectively. He was friendly and gives respect to the students.

MR. IKHLAQ AHMED

Course: Drainage Engineering

PERFORMA-1(Section-A)

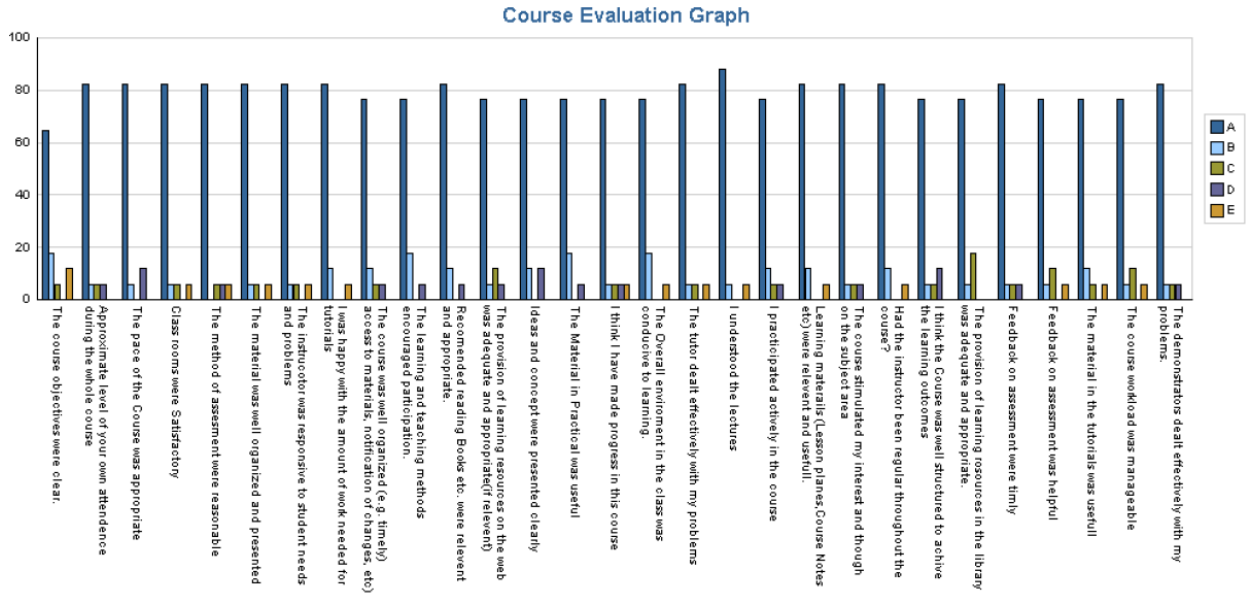

Fig: Course evaluation (Section-A) Drainage Engineering,Spring-16

(Section-B)

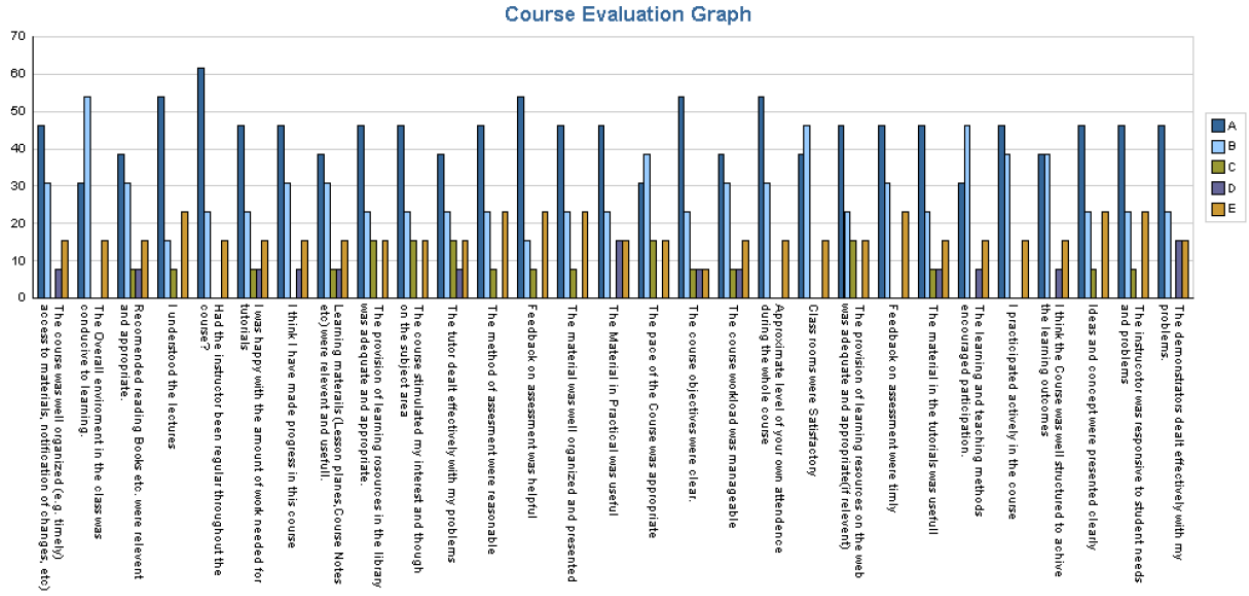

Fig: Course evaluation (Section-B) Drainage Engineering,Spring-16

General Comments

The course was difficult and some students feel difficulty in understanding the concept of the contents. Otherwise it provides useful knowledge to students.

PERFORMA-10 (Section-A)

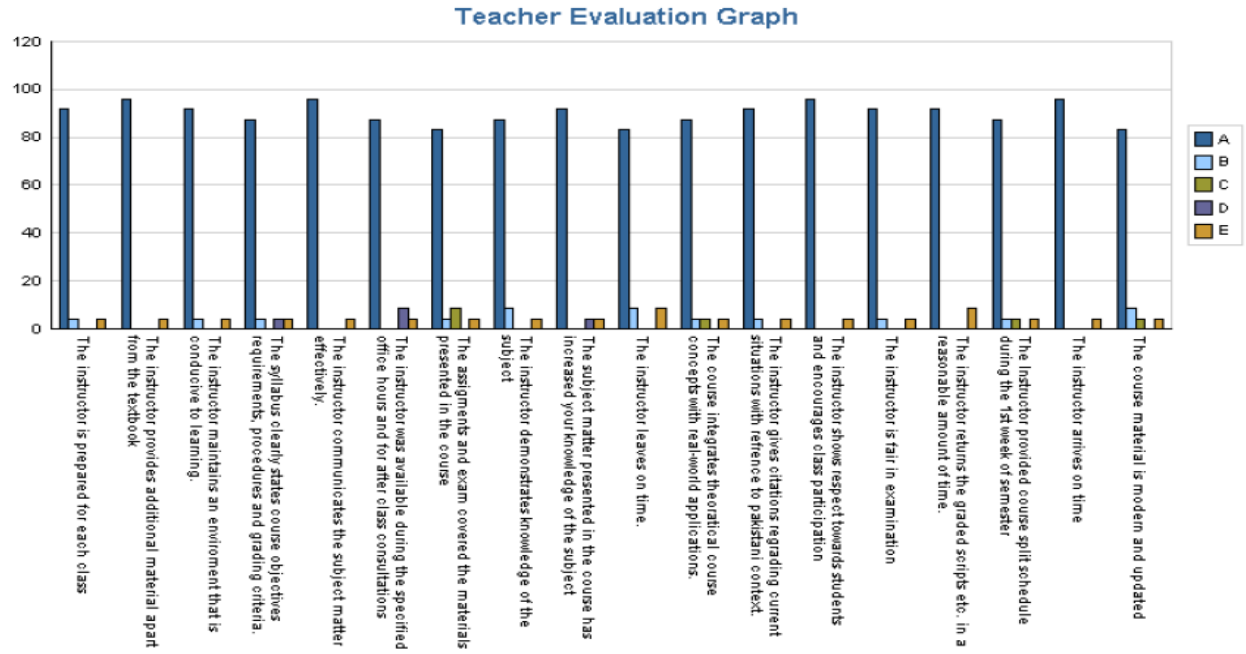

Fig: Teacher evaluation (Section-A) Drainage Engineering,Spring-16

(Section-B)

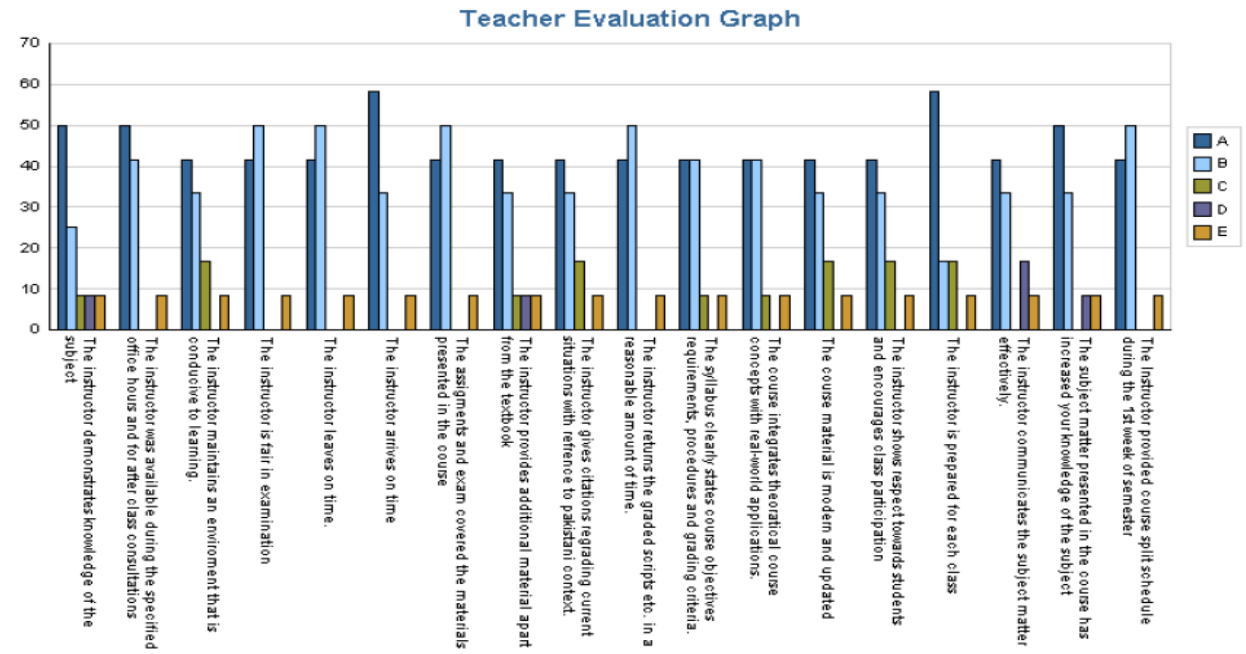

Fig: Teacher evaluation (Section-B) Drainage Engineering,Spring-16

Comments

The graph shows that the teacher was dedicated and conveys the knowledge effectively. He was friendly and available to the students.

MR. M. AMIN

Course: GIS & Remote Sensing

PERFORMA-1 (Section-A)

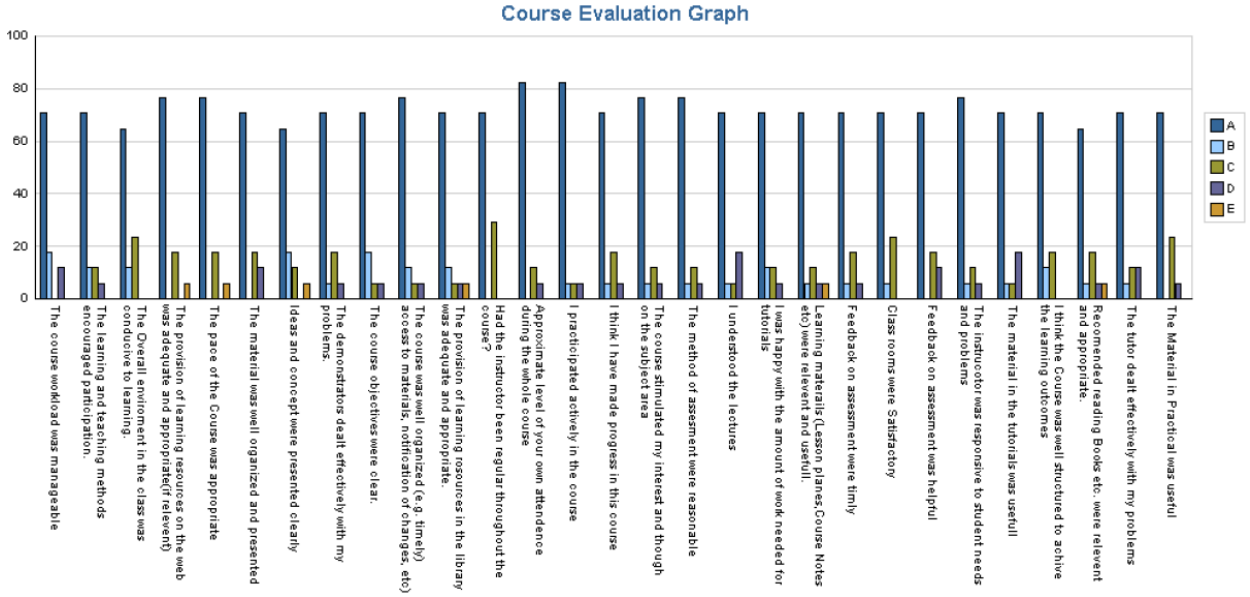

Fig: Course evaluation (Section-A) GIS & Remote Sensing,Spring-16

(Section-B)

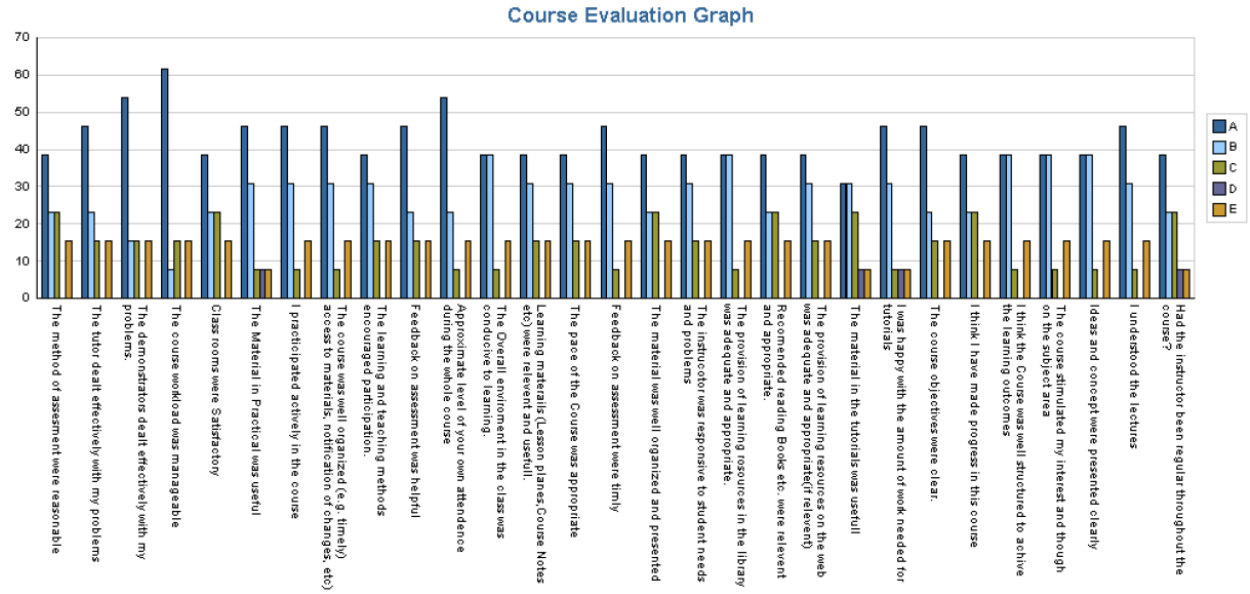

Fig: Course evaluation (Section-B) GIS & Remote Sensing,Spring-16

General Comments

This was supporting course. The objective was to introduce and give basic knowledge of using GIS and remote sensing. Some students feel difficulty in understanding the contents.

PERFORMA-10 (Section-A)

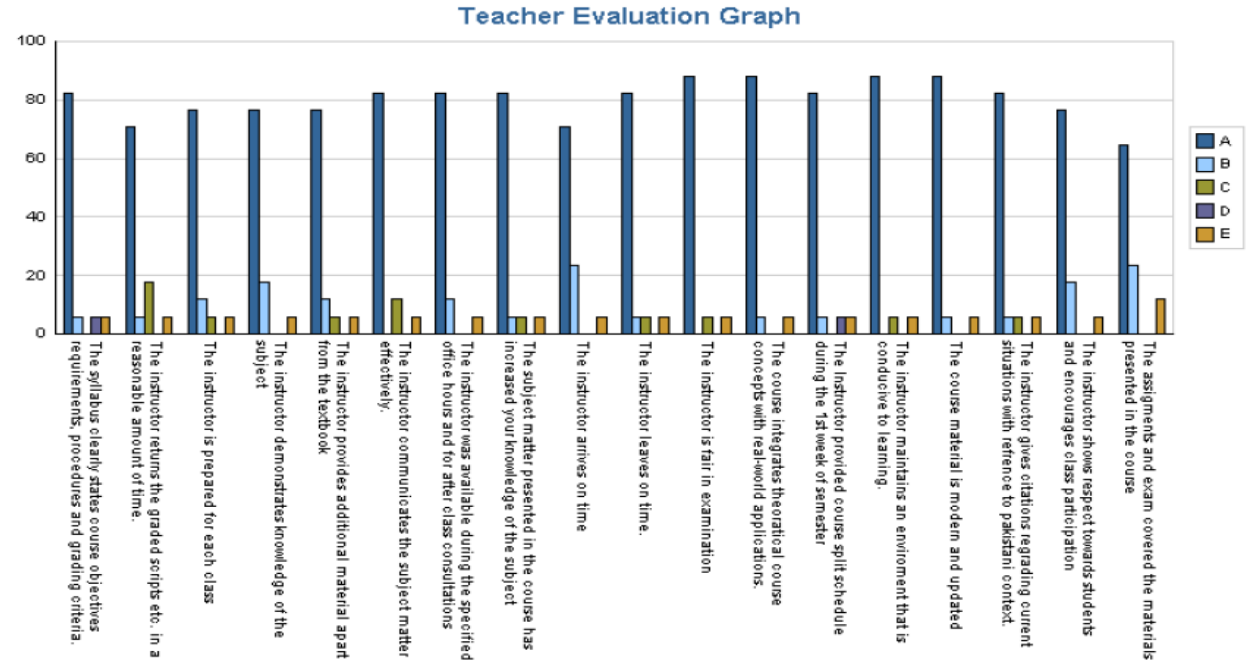

Fig: Teacher evaluation (Section-A) GIS & Remote Sensing, Spring-16

(Section-B)

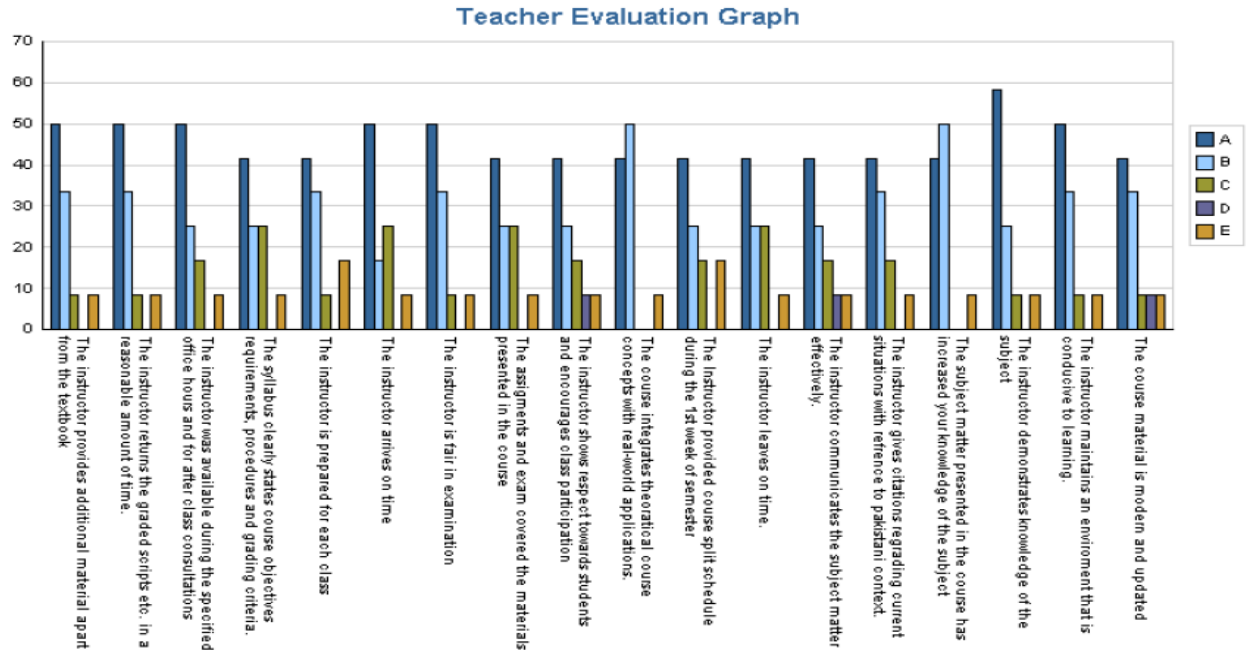

Fig: Teacher evaluation (Section-B) GIS & Remote Sensing, Spring-16

Comments/suggestions

The teacher was dedicated and tried his best to convey the knowledge to the students.

MR. ATTA-UR-REHMAN

Course: Meteorology & Climate Change

PERFORMA-1 (Section-A)

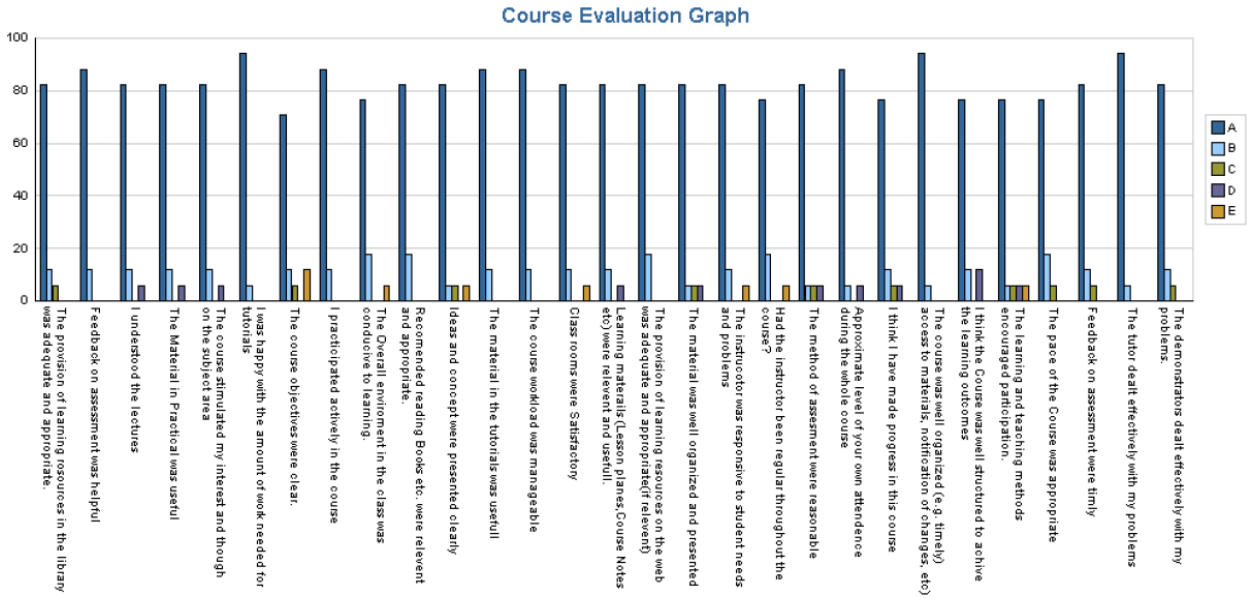

Fig: Course evaluation (Section-A) Meteorology & Climate Change, Spring-16

(Section-B)

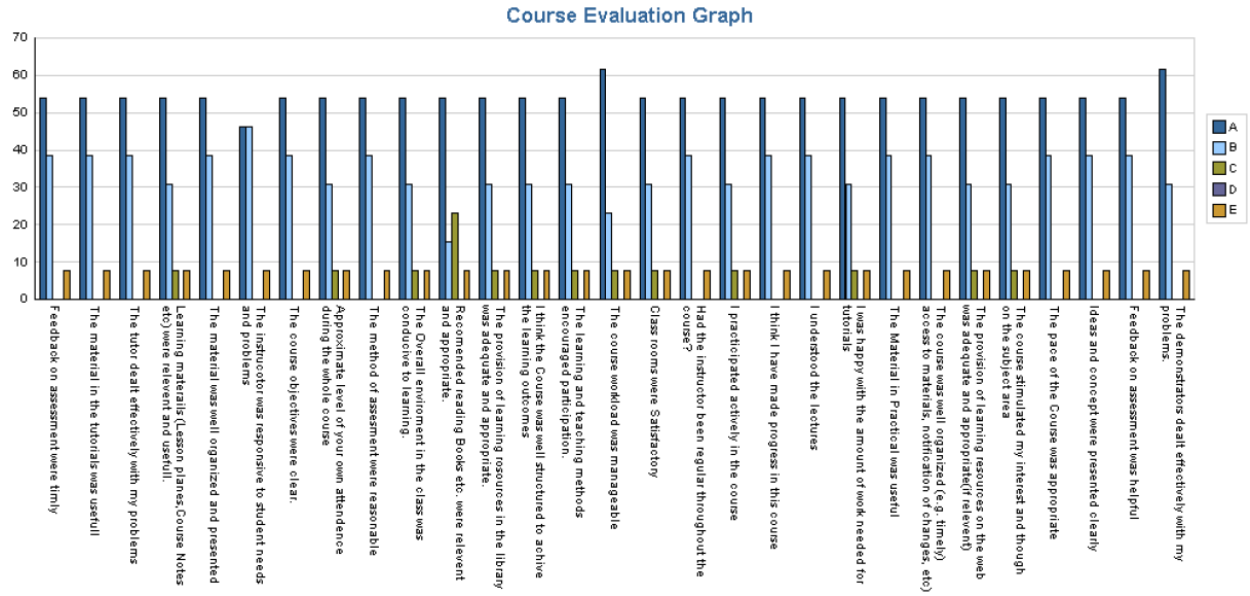

Fig: Course evaluation (Section-B) Meteorology & Climate Change, Spring-16

General Comments

The course was interesting and provides the basic knowledge of metrology and its impact on climate change. Students show satisfaction regarding course objectives.

PERFORMA-10 (Section-A)

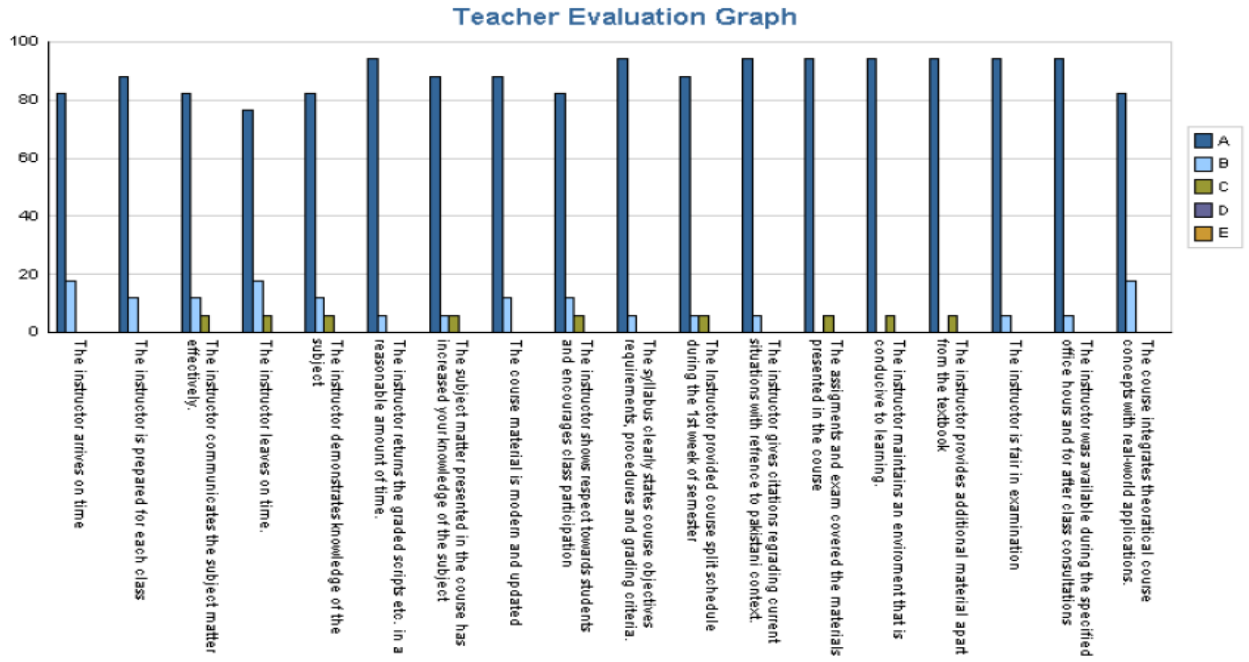

Fig: Teacher evaluation (Section-A) Meteorology & Climate Change, Spring-16

(Section-B)

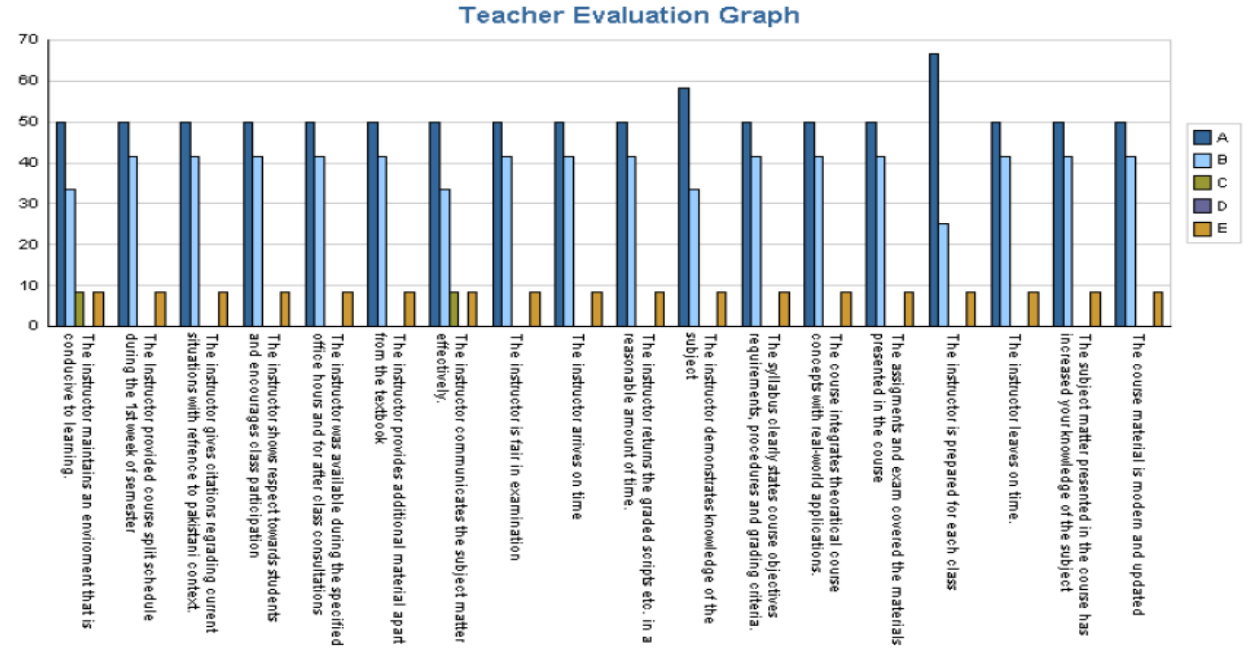

Fig: Course evaluation (Section-B) Meteorology & Climate Change, Spring-16

General Comments/Suggestions

The graph shows that the teacher was dedicated and was able to teach this course in a good manner, communication skill, and punctuality.

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

The department has recently started regular assessment process and in future assessments results will be incorporated accordingly. Following are the strength and weaknesses identified.

Strengths of the Department

1. Senior faculty members are foreign qualified with great national and international experience of teaching, research, field and projects implementation in the field of Agricultural Engineering. The other faculty members are continuing their Ph.D from national and international institutions.
2. The department has won number of national and international research projects in the field of indigenous hydroponic agriculture, rain water harvesting, drip irrigation, biogas production, solar drying and wheat processing.
3. The faculty has won the largest project in the history of University with name "Strengthening Agricultural Engineering and Technology and Women Development".
4. Initiatives taken by the Dean, Faculty of Agricultural Engineering, Prof. Dr. Rai. Niaz Ahmed;
    a. Design and Operation of Indigenous hydroponic Agriculture system
    b. Rain water harvesting at campus and its efficient use through drip irrigation system.
    c. Design of solid waste disposal plant utilizing solid waste generated at campus
    d. Establishment of Faculty of Agricultural Engineering and Technology at PMAS-Arid Agriculture University, Rawalpindi.

Weakness Identified in Program

The faculty of Agricultural engineering is recently established, therefore, following weaknesses are identified at the moment;

1. The department has shortage of faculty members at the moment.
2. Limited lab. facilities
3. Limited Computer lab with internet facility.

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

Table 1: Present performance measures for research activities:

Faculty	Experience	Journal Publication	Conferences Publications	Projects
Prof. Dr. Rai Niaz Ahmed	**31 years**	**30**	**38**	**24**
Prof. Dr. Muhammad Yasin	**38 years**	**22**	**30**	**14**
Prof. Dr. Jehangir Khan Sial	**45 years**	**45**	**29**	**10**
Dr. Muhammad Umair	**11.5 years**	**8**	**7**	**1**
Engr. Asim Gulzar	**8**	**1**		**1**
Engr. Tahir Iqbal	**5**	**3**	**1**	**-**
Engr. Muhammad Usman	**3**	**1**	**2**	**2**
Engr. Muhammad Akhlaq	**4**	**-**		**1**
Engr. Zia-ul-Haq	**3**	**-**	**-**	**-**
Engr. Shahzad Noor	**1**	**-**	**2**	**-**
Engr. Muhammad Tariq	**1**	**-**	**1**	**-**
Engr. Syed Mudassar Raza	**2**	**-**	**-**	**-**
Engr. Fiaz Hussain	**3**	**4**	**3**	**2**

Performa 2 and 5

The Performa 2 and 5 i.e. faculty course review report and faulty survey is attached as an Annexure-A and Annexure-B respectively at the end of this report.

CRITERION 2

CURRICULUM DESIGN AND ORGANIZATION

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

Brief Introduction

The B.Sc (Hons) Agricultural Engineering programs by Faculty of Agricultural Engineering and Technology offers students the opportunity for study and research in many fields, including the following: Farm Mechanization, Automation and Precision Agriculture; Land and Water Conservation Engineering; Renewable Energy; Farm Structure and Environmental Engineering; Food Engineering and Food Safety; Horticultural Engineering. The educational objectives of these programs are based on the intellectual and professional development of graduate students. The degree of B.Sc (Hons) in Agricultural Engineering shall represent the attainment of a high level of scholarship and achievement in independent research. This programs is conceptualized and designed to produce graduates with the highest level of training, who are expected to contribute towards the goal of realizing the full potential of professionals in Agricultural Engineering and solving the problems in agriculture to attain maximum yield with minimum inputs.

Objectives

The general objectives of the B.Sc (Hons) Agricultural Engineering program is to equip graduates with the highest level of research training, which is essential for effective performance of advanced research, teaching and management in agricultural industry. On completion of degree programs, graduates should be able to do the following in best way possible:

1. To impart sound knowledge and training in the field of Agricultural Engineering to produce educated and skilled graduates.
2. To enable the students for using engineering equipments for water and land conservation, on farm machinery and on site data collection, analysis and problem solving techniques in the laboratory and field.
3. To equip students with oral and written communication skills as well as to work effectively in a team environment.
4. To establish linkage between agricultural industry and academia through research and development
5. To impart training for managing and establishing agricultural engineering enterprises.

The assessment of curriculum is given in the following table and the courses are cross tabulated according to the program objectives.

Table 1: Core Courses versus program objectives

Course	Course name	Program objectives				
		1	2	3	4	5
LWCE-301	Fluid Mechanics	++++	+++	++	+	+
SEE-301	Engineering Drawing & Graphics	+++	+++	+	+	+
FMPE-301	Metallurgy and Workshop Practices	++++	+++	++	+	+
SEE-501	Fundamentals of Environmental Engineering	++++	++	++	+	+
FMPE-501	Instrumentation & Measurements	++++	++	++	+	+
SEE-306	Engineering Mechanics	++++	+++	++	+	+
SEE-302	Computer Aided Design	++++	++++	++	+	+
FMPE-302	Manufacturing Engineering	+++	+++	++	+	+
LWCE-401	Engineering Hydrology	++++	++++	++	++	+
SEE-401	Surveying & Leveling	++++	+++	++	++	++
FMPE-401	Engineering Thermodynamics	++++	+++	++	+	+
LWCE-402	Soil Mechanics	++++	++++	++	++	+
LWCE-406	Open Channel Hydraulics	++++	+++	+	+	+
FMPE-402	Farm Power	++++	++++	++	++	++
SEE-402	Mechanics of Materials	++++	+++	++	+	+
SEE-406	Farm Structures & Materials	++++	++++	++	++	+
HE-402	Landscape Engineering	++++	++++	++	++	++
LWCE-507	Soil Dynamics	++++	+++	+	+	+
SEE-507	Environmental Management System in Industry	++++	++	++	+	+
FMPE-505	Boiler Engineering and Power Plants	++++	+++	++	+	+
RSG-502	GIS & Remote Sensing	++++	++	++	++	++
AET-601	Project & Report	++++	++	+++	+++	+++
MATH-602	Numerical Analysis	++++	++	+	+	+
LWCE-501	Irrigation Engineering	++++	+++	+++	++	++
FMPE-503	Design of Agricultural Machinery	++++	+++	++	++	++
LWCE-505	Water Management Engineering	++++	+++	++	++	++
LWCE-502	Drainage Engineering	++++	+++	++	++	++
LWCE-504	Soil & Water Conservation	++++	+++	++	++	++

	Engineering					
FMPE-502	Farm Machinery & Earth Moving Equipment	++++	+++	++	++	++
LWCE-506	Hydraulic Machinery	++++	++++	++++	++++	++++
LWCE-508	Ground Water Hydrology	++++	++++	++++	++++	++++
FMPE-506	Energy Resources and Management	++++	+++	+	+	+
FMPE-601	Agricultural Processing Engineering	++++	+++	++	++	++
FMPE-605	Machine Design	++++	+++	++	++	++
LWCE-603	Farm Irrigation Systems	++++	+++	++	++	++
LWCE-605	Water Quality Management	++++	++	++	+	+
FMPE-603	Post-Harvest Engineering	++++	+++	++	++	++
SEE-603	Solid and Wastewater treatment	++++	+++	+	+	+
SEE-605	Engineering Materials	++++	++	++	+	+
SEE-609	Environmental Impact Assessment	++++	+++	++	++	++
LWCE-602	Pumps and Tube wells	++++	+++	++	++	+
AET-602	Project & Report	++++	+++	++	+++	+++
LWCE-606	Irrigation Water Management Techniques	++++	+++	++	++	++
LWCE-608	Project Planning and Management	++++	+++	++	++	++
FMPE-604	Industrial Engineering and Management	++++	+++	++	+++	+++
FMPE-606	Reverse Engineering in Agricultural Engineering	++++	+++	++	+++	+++

+ = Relevant, ++ = Relevant & satisfactory, +++ = Very relevant & Very satisfactory, ++++ = Highly relevant & Highly satisfactory, NA= Not applicable

Entry requirement

B.Sc Agricultural Engineering (4 year)

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

i. F.Sc Pre Engineering with at least 60 % marks. Or Diploma in Auto & Machinery / Civil / Mechanical / Electrical from a recognize board with at least 60% marks and Intermediate (Pre-Agriculture) with CGPA 2.5.
ii. Entry Test marks not less than 60 %.
iii. The Examination is arranged by the Dean FAE&T
iv. The merit for admission is prepared on the basis of F.Sc and entry test marks @70:30, respectively.
v. An additional entry test feeis charged from the candidates.

Duration of the Programs and Semester-wise worked load

B.Sc Agricultural Engineering

Duration

The minimum duration (residency) of B.Sc (Hons) Agricultural Engineering shall be 8 semesters and maximum duration shall be 10 semesters.

Minimum and Maximum Credit Hours

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

Academic Standing:-

(i) Cumulative Grade Point Average
   a) Maximum cumulative grade point average: 4.00
   b) Minimum cumulative grade point average for obtaining B.Sc (Hons) Agricultural Engineering: 2.50

(ii) To remain on the roll of the university a student shall be required to attain the following minimum CGPA in each semester.

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

Further, University rules are followed in case of any other issue related to admission and examination.

LIST OF PROPOSED UNDER GRADUATE COURSES

Semester I		
Course No.	**Title of the course**	**Credit Hours**
Major courses		
LWCE-301	Fluid Mechanics	**3(2-1)**
SEE-301	Engineering Drawing & Graphics	**2(1-1)**

FMPE-301	Metallurgy and Workshop Practices	**3(2-1)**
Minor Courses		
IS-301	Islamic Studies	**2(1-1)**
MATH-301	Linear Algebra & Calculus	**3(3-0)**
PHY-301	Applied Physics	**3(2-1)**
ENG-301	English Composition & Comprehension	**3(3-0)**
Total credit hours		**19**
Semester II		
Course No.	**Title of the course**	**Credit Hours**
Major courses		
SEE-306	Engineering Mechanics	**3(2-1)**
SEE-302	Computer Aided Design	**2(1-1)**
FMPE-302	Manufacturing Engineering	**3(2-1)**
Minor Courses		
SSH-302	Pakistan Studies	**2(1-1)**
SS-302	Soil Science	**3(2-1)**
AGR-302	Basic Agriculture	**3(2-1)**
Total credit hours		**16**
Semester III		
Course No.	**Title of the course**	**Credit Hours**
Major courses		
LWCE-401	Engineering Hydrology	**3(2-1)**
SEE-401	Surveying & Leveling	**4(2-2)**
FMPE-401	Engineering Thermodynamics	**3(2-1)**
Minor Courses		
MATH-401	Differential Equations, Power Series, Laplace Transform	**3(2-1)**
CS-401	Computer Programming and Applications in Engineering	**3(2-1)**
RS-401	Sociology	**2(2-0)**
Total credit hours		**18**
SEMESTER IV		
Course No.	**Title of the course**	**Credit Hours**
Major courses		

LWCE-402	Soil Mechanics	**3(2-1)**
LWCE-406	Open Channel Hydraulics	**3(2-1)**
FMPE-402	Farm Power	**3(2-1)**
SEE-402	Mechanics of Materials	**3(2-1)**
SEE-406	Farm Structures & Materials	**3(2-1)**
HE-402	Landscape Engineering	**3(2-1)**
Total credit hours		**18**
SEMESTER V		
Course No.	**Title of the course**	**Credit Hours**
Major courses		
LWCE-501	Irrigation Engineering	**3(2-1)**
SEE-501	Fundamentals of Environmental Engineering	**3(2-1)**
FMPE-501	Instrumentation & Measurements	**3(2-1)**
Minor Courses		
ENG-501	Communication & Presentation Skills	**3(2-1)**
STAT-501	Statistics & Probability	**3(3-0)**
Elective-I	**One Course is to be selected**	
FMPE-503	Design of Agricultural Machinery	**3(2-1)**
FMPE-505	Boiler Engineering and Power Plants	**3(2-1)**
LWCE-505	Water Management Engineering	**3(2-1)**
LWCE-507	Soil Dynamics	**3(2-1)**
SEE-505	Quantity Survey and Cost Estimation	**3(2-1)**
SEE-507	Environmental Management System in Industry	**3(3-0)**
Total credit hours		**18**
SEMESTER VI		
Course No.	**Title of the course**	**Credit Hours**
Major courses		
LWCE-502	Drainage Engineering	**3(2-1)**
LWCE-504	Soil & Water Conservation Engineering	**3(2-1)**
FMPE-502	Farm Machinery & Earth Moving Equipment	**4(3-1)**
RSG-502	GIS & Remote Sensing	**3(2-1)**
Minor Courses		
RS-502	Professional Ethics	**2(2-0)**

Elective – II	**One Course is to be selected**	
LWCE-506	Hydraulic Machinery	**3(2-1)**
LWCE-508	Ground Water Hydrology	**3(2-1)**
FMPE-506	Energy Resources and Management	**3(2-1)**
FMPE-508	Farm Machinery Management	**3(2-1)**
SEE-504	Water Supply and Sewerage	**3(2-1)**
SEE-506	Meteorology and Climate Change	
Total credit hours		**18**
SEMESTER VII		
Course No.	**Title of the course**	**Credit Hours**
Major courses		
FMPE-601	Agricultural Processing Engineering	**3(2-1)**
FMPE-605	Machine Design	**3(3-0)**
AET-601	Project & Report	**3(0-3)**
Minor Courses		
CHEM-601	Industrial Chemistry	**3(2-1)**
Elective – III	**One Course is to be selected**	
LWCE-603	Farm Irrigation Systems	**3(2-1)**
LWCE-605	Water Quality Management	**3(2-1)**
FMPE-603	Post-Harvest Engineering	**3(2-1)**
SEE-603	Solid and Wastewater treatment	**3(2-1)**
SEE-605	Engineering Materials	**3(2-1)**
SEE-609	Environmental Impact Assessment	**3(3-0)**
Total credit hours		**15**
SEMESTER VIII		
Course No.	**Title of the course**	**Credit Hours**
Major courses		
LWCE-602	Pumps and Tube wells	**3(2-1)**
AET-602	Project & Report	**3(0-3)**
Minor Courses		
ECO-602	Engineering Economics &Management	**3(3-0)**
MATH-602	Numerical Analysis	**3(2-1)**
Elective-IV	**One Course is to be selected**	

LWCE-606	Irrigation Water Management Techniques	**3(2-1)**
LWCE-608	Project Planning and Management	**3(2-1)**
FMPE-604	Industrial Engineering and Management	**3(2-1)**
FMPE-606	Reverse Engineering in Agricultural Engineering	**3(2-1)**
SEE-602	Water Quality and Pollution	**3(2-1)**
SEE-604	Rural Electrification	**3(2-1)**
SS-602	Land Reclamation	**3(2-1)**
Total credit hours		**15**

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

Element	Course	Course name
Theoretical Background	**LWCE-301**	Fluid Mechanics
	SEE-301	Engineering Drawing & Graphics
	FMPE-301	Metallurgy and Workshop Practices
	MATH-301	Linear Algebra & Calculus
	PHY-301	Applied Physics
	SS-302	Soil Science
	AGR-302	Basic Agriculture
	MATH-401	Differential Equations, Power Series, Laplace Transform
	CS-401	Computer Programming and Applications in Engineering
	SEE-501	Fundamentals of Environmental Engineering
	FMPE-501	Instrumentation & Measurements
	CHEM-601	Industrial Chemistry
	ECO-602	Engineering Economics &Management
Problem Analysis	**SEE-306**	Engineering Mechanics
	SEE-302	Computer Aided Design
	FMPE-302	Manufacturing Engineering
	LWCE-401	Engineering Hydrology
	SEE-401	Surveying & Leveling *
	FMPE-401	Engineering Thermodynamics
	LWCE-402	Soil Mechanics
	LWCE-406	Open Channel Hydraulics
	FMPE-402	Farm Power
	SEE-402	Mechanics of Materials
	SEE-406	Farm Structures & Materials
	HE-402	Landscape Engineering
	STAT-501	Statistics & Probability
	LWCE-507	Soil Dynamics
	SEE-507	Environmental Management System in Industry
	FMPE-505	Boiler Engineering and Power Plants
	RSG-502	GIS & Remote Sensing

	SEE-504	Water Supply and Sewerage
	SEE-506	Meteorology and Climate Change
	AET-601	Project & Report
	MATH-602	Numerical Analysis
Solution Design	**LWCE-501**	Irrigation Engineering
	FMPE-503	Design of Agricultural Machinery
	LWCE-505	Water Management Engineering
	SEE-505	Quantity Survey and Cost Estimation
	LWCE-502	Drainage Engineering
	LWCE-504	Soil & Water Conservation Engineering
	FMPE-502	Farm Machinery & Earth Moving Equipment
	LWCE-506	Hydraulic Machinery
	LWCE-508	Ground Water Hydrology
	FMPE-506	Energy Resources and Management
	FMPE-508	Farm Machinery Management
	FMPE-601	Agricultural Processing Engineering
	FMPE-605	Machine Design
	LWCE-603	Farm Irrigation Systems
	LWCE-605	Water Quality Management
	FMPE-603	Post-Harvest Engineering
	SEE-603	Solid and Wastewater treatment
	SEE-605	Engineering Materials
	SEE-609	Environmental Impact Assessment
	LWCE-602	Pumps and Tube wells
	AET-602	Project & Report
	LWCE-606	Irrigation Water Management Techniques
	LWCE-608	Project Planning and Management
	FMPE-604	Industrial Engineering and Management
	FMPE-606	Reverse Engineering in Agricultural Engineering
	SEE-602	Water Quality and Pollution
	SEE-604	Rural Electrification
	SS-602	Land Reclamation

Standard 2.3: The curriculum must satisfy the core requirements for the program, as specified by the respective accreditation body.

The curriculum is designed to meet the international educational standards as well as the HEC requirements

Standard 2.4: The curriculum must satisfy general education of arts, professional and other discipline requirement of the program

The curriculum includes the courses to educated the students in this regard, these courses includes;

Element	Course	Course name
General education of arts, professional and other discipline	**(IS-301)**	Islamic Studies
	(SSH-302)	Pakistan Studies
	(RS-401)	Sociology
	(AGR-302)	Basic Agriculture
	(SS-302)	Soil Science
	(CS-401)	Computer Programming and Applications in Engineering
	(ENG-501)	Communication & Presentation Skills
	(STAT-501)	Statistics & Probability
	(RSG-502)	GIS & Remote Sensing
	(RS-502)	Professional Ethics
	(CHEM-601)	Industrial Chemistry
	(ECO-602)	Engineering Economics & Management
	(MATH-602)	Numerical Analysis

Standard 2.5: Information technology component of the curriculum must be integrated throughout the program:

The students are given assignments where necessary to solve the engineering problems using advanced computer technologies also the courses are included in the curriculum related to computer programming and GIS and remote sensing.

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

- Project presentations and Competitions are held to improve communication skills and presentation abilities.
- The courses such as Communication & Presentation Skills (ENG-501), Project & Report I & II are included in the curriculum to enhance oral and written communication skills of the students. Beside that regular assignments (written and oral) are given to students to achieve the objective.

CRITERION 3

LABORATORIES AND COMPUTER FACILITIES

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

Labs are under constructions, and lab manual are being prepared.

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

Lab engineers are appointed for that purposes.

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

Internet facilities should be available to all students within the faculty as the main library has limited space for students.

CRITERION 4

STUDENT SUPPORT AND ADVISING

Directorate of Students Affairs of the University organizes support programs, cultural activities for students and guides them in case of any problem. The university staff provides information regarding admission, scholarships, career opportunities, etc. The university arranges orientation programmed for new students and guided tours to various departments. However, currently Parent/Teacher association in the university does not exist. There is also Tutorial Group Meeting (TGM) system working under the supervision of senior tutor. Each teacher is assigned a group of students from different faculties and one two credit class is assigned in a week for TGM. The objective of this system is to enhance extra circular activities and provide proper counseling to the students.

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

- Courses are taught as per strategy and guidance provided by HEC and PEC.
- Subject courses are offered as per scheme of study of the department after approval of Academic Council of the university. Courses are offered by faculty trained in the relevant subject and as per their availability.
- Elective courses and minor courses are offered as per policy of HEC, PEC and University.

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

- Courses are structured and decided among the faculty members in the departmental board of study meeting.
- Courses to be offered are decided before the commencement of semester
- The faculty members interact frequently among themselves and with students.
- Emphasis is given on effective interaction between the students and between students and teachers.
- Students are encouraged to ask question, give comments and take part in the discussions in the class.

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.

- Students are informed about program requirements through Dean Office and through personal communication of teachers with them.

- The counseling of students is continuous process and students are free to contact relevant teachers whenever they face any study related and professional problem.
- Students are also facilitated for interaction with faculties/scientists in other universities and research organizations whenever they need and there is open option for the students to get membership of professional societies.

CRITERION 5

PROCESS CONTROL

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.

- The process of admission is well established and followed as per rules and criterion set by University both for undergraduate and post graduate programs.
- Admission criteria is revised every year before the announcement of admissions

Admission requirements

B.SC AGRICULTURAL ENGINEERING (4 YEAR)

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

i. F.Sc Pre Engineering with at least 60 % marks. Or Diploma In Auto & Machinery / Civil / Mechanical / Electrical from a recognize board with at least 60% marks and Intermediate (Pre-Agriculture) with CGPA 2.5.
ii. Entry Test marks not less than 60 %.
iii. The Examination is arranged by the Dean FAE&T
iv. The merit for admission is prepared on the basis of F.Sc and entry test marks @70:30, respectively.
v. An additional entry test fee is charged from the candidates.

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

- Registration of students is done once every year at the time of admission through a well-managed comprised system called “Campus Management System (CMS)”.
- Students are evaluated through Mid, Final and Practical exams and through written assignments and oral presentations.
- Students are evaluated through the result of each course for each semester. If the students fulfill the criteria of the University (a specific CGPA after each semester) they are promoted to the next semester.
- In general, the students are registered on competition bases keeping in view the academic and research standards.

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

- The University follows the recruitment policy and rules recommended by HEC and PEC.
- Posts are advertised in national newspapers and university website, and applicants are short-listed 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.
- Inductions are being done on Tenure Track System (TTS) as well as on BPS.
- HEC also supports appointment of highly qualified members as foreign faculty professor, national professors and deputes them in various departments.

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 meting its objectives

- Periodical update of curriculum is done depending upon the requirements, innovations and new knowledge generated.
- Books related to various filed of agricultural engineering are available in University library where documentation, photocopying and internet facilities are also available. The faculty library is under construction, where all the curriculum and helping books will be available with internet faculty.
- Students are provided class notes, photocopies of slides/transparencies and soft copies of helping materials as well.
- All efforts are made to impart the course material and knowledge to meet the objectives of the curriculum.

Standard 5-5: The process that ensures that graduates 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.

- The evaluation is conducted according to the examination system of the University which is clearly documented.
- The evaluation procedure consists of quizzes, mid and final examinations, practical, assignments and reports, oral and technical presentations.
- The controller of examinations announces the date regarding commencement of examination and other relevant information. After each semester, the controller office notifies results of the students.
- The minimum pass marks for each course is 40% for Bachelor degree in theory and practical, separately.
- In theory, weightage to each component of examination is as prescribed here under:

Mid Examination	30%
Assignments	10%
Final Examination	60%

- Grade points are as follows

Marks Obtained	Grade	Grade point	Remarks
80-100 %	A	4	Excellent
65-79 %	B	3	Good
50-64 %	C	2	Satisfactory
50-49 %	D	1	Pass
Below 40 %	F	0	Fail

- Gold medals are awarded to the students who secure highest marks.
- Degrees are awarded to the students on the convocation that is held every year

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.

Currently there are total 6 faculty members available for B.Sc (Hons) Agricultural Engineering program along with 5 Assistant Executive Engineer/Lab engineers to teach labs. Three faculty members are foreign Ph.D., one faculty member is on study leave for Ph.D from China. Others are continuing their Ph.D.

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

- In each semester mixed courses are offered according to work load of faculty members
- Division of students for supervision is made on the basis of faculty expertise and research interests
- One faculty in on leave for Ph.D under faculty development program.
- Faculty members attended workshops/seminars outside and within university
- Library and internet facilities are available for scholarly work and academics improvement at dean office at the moment.
- Support for attending conferences can lead to enhancement of research initiatives at the university.
- There is university-funded program, which provides financial support for research projects by the young faculty members and almost all faculty members heading some research projects.
- Faculty program is evaluated as per requirement or when needed.
- Faculty members are provided with different academic, research and training facilities as per availability in the university system.

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

- The young faculty is mobilized by timely back up and appreciation by the senior faculty members. Avenues for research funding are provided through university research fund.

- Motivation and encouragement are among the main tools for the better performance of the faculty team members. 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.

Name	**PROFESSOR DR RAI NIAZ AHMAD** **Fathers' name:** Rai Muhammad Amin **Date of Birth:** May 22, 1958 
Personal	
Experience	**Academic Experience:** 31 years **Administrative Experiences:** **Vice Chancellor,** PMAS-Arid Agriculture University, Rawalpindi (2013 – Contd.) **Experiences at UAF in Recent Past:** • Dean, Faculty of Agri. Engineering & Technology (2009 – 2013.) • Director, Water Management Research Centre (2003 – 2013.) • Principal Officer, Engineering & Construction Dept. (2007 –2013) • Principal Officer, Repair Cell (Vehicles) (2011-2013) • Chairman, Structures & Environment Engineering Dept. (2011 - 2013) • Chairman, Fiber & Textile Engineering Dept. (2007 –2013) • Chairman Dept. of Irrigation & Drainage 2 years • Principal Officer Estate Management Dept. (2005 to 2009) • Deputy Director Students Affairs 3 years • Associate Hall Warden 3months • Superintendent, Student Hostels 3 years • Assistant Superintendent, Hostels 6 years **International Experiences (Academics)** • Post Doc Scholar at Arid Land Research Centre, Tottori University (Japan) (1997 to 1998) • Post Doc Scholar at Centre for South East Asian Studies, Kyoto University (Japan) (1996 to 1997) • Post Doc Scholar at Iowa State University (USA) (1987 to 1991) **Management Experiences** • Principal Officer Estate Management Dept., UAF (2005 to 2009) • Convener Golden Jubilee Festival Exhibition Committee (2011 to 2012) • Convener National Conference on Setting Standards for the 21st Century for Pakistan: HEC organized event 2011 • Leader UAF Delegation visiting Australia under Aus. Leadership Award 2010 • Member School Board, UAF 4 years • Convener various Standing Committees for University Development projects at main campus as well as sub campuses 4 years • Member UAF Campus Committee 5 years • Member several other Management Committees on different occasions organized at UAF

<table>
<tr><td>Honor and Awards</td><td>

Recipient of President's Medal for Technology-2009
Recipient of International Commission on Irrigation and Drainage (ICID) "WATSAVE Award-2009 of Technology" in New Dehli, India alongwith cash award of US$ 2000/-
Recipient of 12th Star Award 2002 (South Asia Publications)
Recipient of "The Reverend P.T. Taiganides Award" as an Outstanding Graduate Student in Agricultural Engineering at Iowa State University, Ames Iowa, USA with cash award of US$ 100/-
Recipient of "Research Assistantship" at Iowa State University, Ames Iowa.
JSPS (Japanese Society for the Promotion of Science) Research Fellow for Post-Doctoral studies (1996 to 1998). First Pakistani who won the JSPS fellowship on <u>Open Competition Basis</u>.
Australian Leadership Award Fellowship (ALA-F) 2010
Merit scholarship holder during B.Sc. Agri. Engineering

</td></tr>
<tr><td>Memberships</td><td>
Membership of Learned Societies
• Member, American Society of Agricultural Engineering (ASAE)
• Member, Asian Association of Agricultural Engineers (AAAE)
• Member, Japanese Society of Irrigation, Drainage and Reclamation Engineers.
• Member, Pakistan Engineering Council (PEC)
• Member Pakistan Society of Agri. Engineers (PSAE)
• Member, Delta-Sigma-Gamma, ISU, USA
• Member, The Institution of Engineers, Pakistan (IEP)
• Member, Faisalabad Foundry Owners Trade Group

Membership of Editorial / Review Boards of National Journals
• Member, Editorial Board of Pakistan Journal of Water Resources, PCWRWR-Islamabad
• Member, Editorial Board of Journal of Engineering and Applied Sciences, N.W.F.P, Peshawar University
• Member, Editorial Board of Zari Digest, University of Agriculture, Faisalabad
• Member, Editorial Board of Journal of Sindh Agriculture University Tandojam, Sindh
</td></tr>
<tr><td>Graduate Students
Postdocs
Undergraduate Students</td><td>

M.Sc. Students 30 students
Ph.D. Students (1 completed 3 students in-progress)

</td></tr>
<tr><td>Research Grants and Contracts</td><td>
<table>
<tr><th>Sr. #</th><th>Project title</th><th>Budget (Rs. Million)</th><th>Management responsibility</th><th>Status</th></tr>
<tr><td>1</td><td>Optimizing canal and groundwater management; ACIAR funded project</td><td>88.3</td><td>National Project Co-coordinator</td><td>On-going
Jan 2008–</td></tr>
</table>
</td></tr>
</table>

		Collaborators: CSU-Australia, UAF, PIDA, PID			July 2013
	2	On-Farm Research & Development Component of Rehabilitating LCC System; JICA-Japan funded project	75.5	Project Director	On going Jan 2007-Mar 2012 (**Revised PC-1 for another 3 years period has been approved by CDWP**)
	3	Watershed Rehabilitation and Irrigation Improvement in Pakistan: Demonstration and Dissemination of Improved Irrigation Technologies to Help Rural Farmers-Central Punjab Component; USDA funded project	46.0	Project Director	On-going Oct 2011-Sep 2014
	4	Improving Irrigation Water Use in the Punjab Province of Pakistan by Raising Flexibility and Integrating Surface and Groundwater Resources; German-DAAD funded project. Collaborators: ZEF-Bon University Germany, UAF, PIDA	14.4	Principal Investigator	On-going Jan 2012-Dec 2014
	5	Design and Development of Biogas Plants at UAF	5.7	Principal Investigator	On-going Oct-2012-Dec-2013
	5	Resource Conservation Technologies-Rice Wheat Consortium (RWC) for the Indo-Gangetic Plains; CIMMYT project	0.5	Principal Investigator, UAF part	Completed
	6	Developing Guidelines for Improving Water Use Efficiency and Testing of Locally Developed Water Soluble Fertilizers under Drip Irrigation System for Various Crops; PARB funded project	31.0	Project Manager	On-going Feb 2012-Feb 2015

7	Operation and Management of Drip Irrigation System at PARS; UAF funded project	3.9	Principal Investigator	On-going July 2010-June 2013
8	Drip Irrigation System for Fruit Orchards and Row Crops for Research and Demonstration Purpose; UAF funded project	16.0	Principal Investigator	On-going July 2011-June 2014
9	Development of Low Cost Drip Irrigation Spares; UAF funded project	0.4	Principal Investigator	On-going July 2011-June 2012
10	Development of Modified Multi-Crop Bed Planter; UAF funded project	0.3	Principal Investigator	On-going July 2011-June 2012
11	Dissemination of Raised Bed Technology to Address Water Shortages in Irrigated Areas; UAF funded project	2.0	Principal Investigator	Completed
12	Testing and Adoption of Improved Raised Bed Technology to Enhance Crop and Water Productivity; HEC funded project	1.7	Principal Investigator	Completed
13	Management Aspects of Surface and Groundwater Resources for Irrigated Areas; ALP-PARC funded project	2.5	Principal Investigator	Completed
14	Controlled Drainage for Crop Production and Water Quality Enhancement; PSF funded project	0.6	Principal Investigator	Completed
15	Development and Testing of Solar Saline Water Evaporator; UAF funded project	0.1	Principal Investigator	Completed
16	Comparison of Irrigation Systems for Water Use Efficiency; UAF funded project	0.1	Principal Investigator	Completed
17	Riverine Areas Development Project; UAF funded project	0.05	Principal Investigator	Completed
18	Studies for Evaluation of Drainage Water Reuse Options for Operation of	1.0	Principal	Completed

		Tile Drainage Projects in Pakistan-Lysimeter studies		Investigator	
	19	Integrated Land and Water Management Project; NARC-PARC funded project	1.0	Principal Investigator	Completed
	20	Feasibility of Using ICI Sludge as a Substitute of Organic Fertilizer; ICI funded project	0.4	Principal Investigator	Completed
	21	Development of Low Cost Spraying Machine for Orchards; funded by local industry	0.05	Principal Investigator	Completed
	22	Use of Drainage Water for Crops on Normal and Salt-affected soils without Disturbing Biosphere Equilibrium; IWASRI funded project	1.5	Principal Investigator	Completed
	23	Pilot Area of Real Life Project (Engineering Component); PARC funded project	4.5	Principal Investigator	Completed
	24	Drainage Model for Crop Production Enhancement and Water Quality Investigation; PSF funded project	0.7	Principal Investigator	Completed

Other Research or Creative Accomplishments

- Four-Row Wheat Bed Planting Machine (ICID Award winning development)
- Six-row Wheat Bed Planting Machine
- Maize and Cotton Bed Planter
- **Solar Operated Indigenous Mini-tubewell**
- Ring Automatic Irrigation System for Orchards
- **Solar Operated Drip & Raingun Systems**
- Drip Irrigation Mobile Power Unit
- Set of Lysimeters "A Physical Drainage Model"
- Orchard Spraying Machine.
- Solar Saline Water Evaporator with Solar Track System
- Clay Porous Cup System for the collection of soil water samples
- Installation of Raingun Sprinklers System in the experimental area of I&D Dept. and WMRC
- Installation of High Efficiency Irrigation Systems at the Experimental area of WMRC

Name	**PROF. DR. MUHAMMAD YASIN** **Fathers' Name:**CH. NOOR MUHAMMAD **Date of Birth:**16th June, 1952 **Domicile:**Sheikhupura, Punjab 
Personal	**Professor/Incharge** Faculty of Agricultural Engineering & Technology, PMAS Arid Agriculture University, Rawalpindi, Pakistan **Address (Postal):** Faculty of Agricultural Engineering & Technology, PMAS Arid Agriculture University, Rawalpindi, Pakistan **Address (Permanent):** Chak No 16/69 P.O Syedwala Teh & Dist Nankana Sahib. **Cell:** +92 333 6104565 **E-Mail:**myasindga@gmail.com
Experience	❖ Director General Agriculture (Field) (2008 to 2012) Field Wing of Agriculture Department, Government of the Punjab ❖ Director AMRI (2002 to 2008) Agricultural Mechanization Research Institute (AMRI), Government of the Punjab ❖ Agricultural Engineer (Research) (1978 to 2002) AMRI, Government of the Punjab ❖ Lecturer (1978-1978) Faculty of Agri. Engineering & Technology, University of Agricultural, Faisalabad ❖ Research Assistant (1981-1982) Agricultural Engineering Department,University of Nebraska, Lincoln, USA ❖ Research Assistant (1988-1991) Biological Systems Engineering Department,University of Nebraska, Lincoln, USA SPECIAL WORK EXPERIENCE (Consultant/Advisor/HOD/Chairman) ❖ Worked as Head of Department (Director General, Agricultural Engineering (Field Wing) and Director AMRI) for 11 years w.e.f. from 2002 to to-date. ❖ Performed the functions / duties of Management of Technical, Administrative and Financial matters of staff (5500 Nos.) and exercised all the administrative and financial powers. ❖ Acted as advisor / consultant to Board of Studies Facility of Agricultural Engineering, University of Agriculture Faisalabad as detailed below;

	• Member Board of Studies, Deptt. of Structures & Environmental Engineering, University of Agriculture, Faisalabad (1997 to 1999) • Member Board of Studies, Department Farm Machinery & Power, University of Agriculture, Faisalabad (2000 to 2003) • Faculty Board Member, Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad (2005 to to-date) ❖ Member Departmental Standardization Committee for procurement of machinery and equipment for Agriculture Department, Government of the Punjab. ❖ Worked as Advisor / Convenor for Testing & Evaluation of different Machinery & Equipment of Punjab and Federal Government. ❖ Advisor for Pakistan Agricultural Machinery Industry and Manufacturers Associations (PAMIMA), Faisalabad (2008 to date) ❖ Advisor for Foundry & Engineering Industry Group, Faisalabad (2008 to date) ❖ Technical Services to Tractor Manufacturing Industries such as Millat & Al-Ghazi Ltd. Co. (2002 to date) ❖ Provided Industrial Extension Services for Agriculture Machinery Design, Fabrication, Evaluation & Promotion (2002 to date)
Honor and Awards	❖ Received Widaman Trust Distinguished Award-1989-90, Lincoln, Nebraska USA ❖ Received Widaman Trust Distinguished Award-1990-91, Lincoln, Nebraska USA ❖ Best Paper Award-PSAE (Pakistan Society of Agricultural Engineering) 1985, Pakistan ❖ Best Paper Award-PSAE (Pakistan Society of Agricultural Engineering) 1986, Pakistan ❖ Cash Award by Engineering Development Board (EDB), 2006-Pakistan ❖ Letter of appreciation for Development of improved Saw-Gin, Machine by EDB, 2005-Pakistan ❖ Letter of appreciation by Pakistan Standards Institution, 1987, Pakistan ❖ Letter of appreciation by Secretary Agriculture-1988, Punjab, Pakistan
Memberships	❖ Executive Body Member of Pakistan Engineering Council (2011-13) ❖ Vice President PSAE (2010 to continue) ❖ General Secretary PSAE (2005 to 2010) ❖ Editor for PSAE Annual Journal (2000 to 2006) ❖ Member Pakistan Engineering Council -Accreditation committee for B.Sc. Agri. Engineering / M.Sc. Agri. Engineering Course Evaluation Committee ❖ Member National Curriculum Revision Committee in Agricultural Engineering constituted by Higher Education Commission (HEC) Islamabad ❖ Editor / Member Board of Editors of Journal of Agriculture Research, Government of the Punjab ❖ Auditor for Pakistan Society of Agricultural Engineers (PSAE) (1984 to

<table>
<tr><td></td><td>1985)</td></tr>
<tr><td>Post Graduate Students</td><td>
<table>
<tr><td>Sr #</td><td>Year</td><td>Degree</td><td>Name</td></tr>
<tr><td>1</td><td>2015</td><td>M.Sc (Hons) Agricultural Engineering</td><td>Tariq Maqsood</td></tr>
<tr><td>2</td><td>2016</td><td>M.Sc (Hons) Agricultural Engineering</td><td>Irfan Abbas</td></tr>
<tr><td>3</td><td>2016</td><td>M.Sc (Hons) Agricultural Engineering</td><td>Aziz Ahmad</td></tr>
</table>
</td></tr>
<tr><td>Publications</td><td></td></tr>
<tr><td>Research Projects</td><td>
<table>
<tr><th>Name of Project</th><th>Period of Implementation</th><th>Cost</th></tr>
<tr><td>Strengthening of Agricultural Engineering and Women Development Program at PMAS-Arid Agriculture University Rawalpindi</td><td>3 years
(2015-2018)</td><td>751.24
Million</td></tr>
<tr><td>Efficient Low cost House hold Bio Gas Plant</td><td>1 Year
(2014 -2015)</td><td>0.40
Million</td></tr>
<tr><td>Small Size Potable Biogas Plant</td><td>1 years
(2015-2016)</td><td>Rs.0.175 million</td></tr>
<tr><td>Study the adoption and impact of Mechanization in Rawalpindi and Sargodha Division.</td><td>1 Year
(2016-17)</td><td>Rs. 0.25 million</td></tr>
</table>
</td></tr>
<tr><td>Other Research or Creative Accomplishments</td><td>The following machines / technologies were developed and adopted by the local manufacturers / industries for mass production and distribution to farmers;
❖ Sugar cane planter
❖ Stubble shaver for sugarcane
❖ Rotary potato digger
❖ Groundnut Sheller
❖ Precision planter for sunflower, maize and soybean
❖ Air assisted sleeve boom sprayer
❖ Mealy bug spray lance
❖ Rota drill for wheat
❖ Cotton stock puller shredded</td></tr>
</table>

	❖ Mobile bhoosa baler ❖ Improved potato planter with fertilizer attachment ❖ Improved saw-gin machine for cotton ginning ❖ Jigs & fixtures for ginning machinery ❖ Biogas plants (Small, Medium and Commercial Size)

Name	**PROF. DR. JEHANGIR KHAN SIAL** 
Personal	Faculty of Agricultural Engineering and Technology PMAS-Arid Agriculture University Rawalpindi. Phone; +51-9062104 Cell: 0300-7994060 Fax: +51-9290160
Experience	• 36 years (Teaching, Research and Administration) • Chairman Department (9 years) • Director Research (3-$^1/_2$ years) • Dean Faculty of Agri. Engg. & Tech. • Member Syndicate • Member Academic Council, Advanced Studies and Research Board, and Senate
Honor and Awards	• Awarded Merit Scholarship throughout university studies. • Awarded Canadian Council Scholarship for M.Sc. Studies at Alberta Canada. • Awarded Central Overseas Scholarship (Pak) for Ph.D. Studies at Iowa, USA. • Awarded **"Honor Shield"** at the International Agro-environ Symposium-2000 by **Governor of Tekirdag,** Turkey. • Awarded "**Environmentalist of the Year 2002 Award**" along with a shield and a cash prize of Rs. 5000/- by Mascon Associates, Lahore. • Awarded **Gold Medal** by International Water Center Charles Sturt University Wagga, Wagga NSW, Australia
Memberships	• Life Member Pakistan Society of Agricultural Engineers. • Life Member Pakistan Engineering Council. • Member Institution of Engineers, Pakistan. • Life Member Society for the Advancement of Agricultural Sciences. • Member International Energy Foundation, Canada. • Member Gamma-Sigma-Delta: The Honor Society of Agriculture, USA.
Graduate Students **Postdocs** **Undergraduate Students**	1. M.Sc. (18 students) 2. Ph.D. (2 students)

Name	**DR. MUHAMMAD UMAIR** **Fathers' Name:** Sher Muhammad **Date of Birth:** 15 Feb 1983 **Domicile:** Punjab (Khanpur, district Rahimyar Khan) 
Personal	**Address (Postal):** Faculty of Agricultural Engineering & Technology, PMAS Arid Agriculture University, Rawalpindi, Pakistan **Address (Permanent):** H # B-IV 728/B, Doaba Colony, Khanpur, Distt. Rahimyar Khan **Cell:** +92 333 0375157 **E-Mail:**umairkpr@uaar.edu.pk
Experience	• Working as **Assistant Professor** (BPS-19) in the Faculty of Agricultural Engineering and Technology, PMAS-Arid Agriculture University, Rawalpindi , since 28 August 2014. • **Three years teaching experience as Lecturer** in the Faculty of Agricultural Engineering and Technology, University of Agriculture, Faisalabad. (22-09-2005 to 15-09-2008) **Subject experience:** ▪ Engineering Drawing ▪ Engineering Statics and Engineering Dynamics ▪ Strength of Materials • **Researcher** at Tokyo University of Agriculture and Technology (April 2011 to March 2012) and (April 2014 to August 2014) • **Assistant Superintendent** Sir Syed Hall, University of Agriculture, Faisalabad (2007-2008) • **Supervisor** Faculty Computer Lab., UAF. (2007) • **Incharge** Engineering Mechanics Lab., UAF. (2006-2008) • **Member of NVM** (National Volunteer Movement). Visit the earthquake affected areas of Pakistan (8th of October 2005) as a volunteer, analyst and as a member of a project on "Disaster within a Disaster". • Work as a **volunteer** after earthquake in Japan 2011 and visited different places in Tohoku area with Muslim and Japanese welfare organizations. • Volunteer in charge of the Muslim community in the Tokyo University of Agriculture and Technology, Japan. • Volunteer in charge of Engineers Blood Foundation at University of Agriculture, Faisalabad.

Honor and Awards	• First position in B.Sc Agricultural Engineering (**Gold Medalist**) • **Gold Medal** from S.M.Elahi Organization in B.Sc Agricultural Engineering • University **Merit Scholarships** throughout the B.Sc Agri. Engineering • Al-Noor Scholarship throughout the B.Sc Agri. Engineering • **MEXT scholarship** from Japan Government for Master program in Japan • **MEXT scholarship** from Japan Government for Ph.D program in Japan
Memberships	• Pakistan Engineering Council AGRI/2502
Brief Statements of Research Interest	**Solar Adsorption Refrigeration System with CPC Collectors** Solar adsorption refrigeration is promising technology, especially in the remote areas and in the developing countries because it is directly driven by solar energy without involving electricity and moving parts like pumps. Therefore, it is technologically possible and socially feasible in the areas where electricity is not enough, but solar energy is rather easy to obtain. Pakistan has great potential for practical implementation of such technology because ALLAH has given us the abandon of solar energy that can be used efficiently for cooling purpose as well. Keeping in view the current energy crises in Pakistan, this research will open new horizons as an alternative source for cooling and refrigeration purposes using only God gifted solar energy and environment friendly working pairs (like silica-gel/ water).
Publications	1. **M. Umair**, A. Akisawa, and Y. Ueda, Performance Evaluation of a Solar Adsorption Refrigeration System with a Wing Type Compound Parabolic Concentrator, Energies, Vol. 7, No. 3, pp. 1448–1466, Mar. 2014. **IF (2.077).** 2. **M. Umair**, A. Akisawa, and Y. Ueda, Simulation Study of Continuous Solar Adsorption Refrigeration System Driven by Compound Parabolic Concentrator, The Open Renewable Energy Journal, Vol. 1, No. 1, pp. 1–12, May 2014. 3. **M. Umair**, Achmad Faisal Dwiputro, I Gusti Agung Bagus Wirajati, Y. Ueda, and A. Akisawa, Design and Investigation of Heat Transfer in a New Adsorbent Bed with CPC for Solar Adsorption Refrigeration Systems, Heat Transfer Engineering, Accepted on February 9, 2015. **(IF =0.898)**. 4. I.G.A.B. Wirajati, **M. Umair**, K. Enoki, Y. Ueda, and A. Akisawa, Three-stage Adsorption Cycle with Three-beds Adsorption Chiller, Trans. of the JSRAE, Advanced published date: September 30, 2014. 5. A. Sattar, C. Arslan, C. Ji, K. Chen, A. Nasir, H. Fang, and **M. Umair**,

"Optimizing the physical parameters for bio-hydrogen production from food waste co-digested with mixed consortia of clostridium," *Journal of Renewable and Sustainable Energy*, vol. 8, no. 1, p. 013107, Jan. 2016. **(IF =0.904)**

6. A. Sattar, C. Arslan, C. Ji, S. Sattar, **M. Umair**, S. Sattar, and M. Z. Bakht, "Quantification of temperature effect on batch production of bio-hydrogen from rice crop wastes in an anaerobic bio reactor," *International Journal of Hydrogen Energy*, vol. 41, no. 26, pp. 11050–11061, Jul. 2016. **(IF =3.205)**
7. M. Sher, M. Mansoor, N. Latif, Z. Islam, Amanullah, and M. Umair, "Impact Assesment of Soil Amendments on Soil Capping Mungbean Production Using Central Pivot Irrigation System in Clayey Soils," *Pakistan Journal of Agricultural Research*, accepted: April 18, 2016.
8. A. Akisawa, **M.Umair**, F. Takahashi, K. Enoki, S. Kubokawa, K. Yoshie and Y. Yonezawa, Static Analysis of Two-stage Refrigeration Cycle using FAM-Z01 and FAM-Z05 adsorbents combination (Manuscript).

CONFERENCES AND PROCEEDINGS

9. A. Faisal, **M. Umair**, K. Enoki, Y. Ueda, and A. Akisawa, "Analysis of Heat Transfer in Adsorbent Bed combined with compound parabolic concentrator," presented at the The 20th Conference of Japan Society of Mechanical Engineering Kanto Region, Tokyo University of Agriculture and Technology, Tokyo, Japan, 2014.
10. I.G.A.B. Wirajati, **M. Umair**, K. Enoki, Y. Ueda, and A. Akisawa, "Three Stage Adsorption Cycle with Three Adsorption Beds", presented at 2014 JSRAE Annual Conference, Saga University (Honjo Campus, Saga Prefecture), Japan, 2014 September 10-13.

Research Grants and Contracts

Sr #	Date	Title	Agency/Organization	Total Award Amount	Remarks
1	Oct, 2015-Nov 2016	Design and Development of Portable Solar Dryer for Fruits and Vegetables	ORIC, PMAS-Arid Agriculture University, Rawalpindi	250,000 Rupees	Funded and in Progress

Name	**Engr. ASIM GULZAR** **Date of Birth:**April, 1984 **Domicile:**Faisalabad, Punjab 
Personal	**Assistant Professor:** Faculty of Agricultural Engineering & Technology, Pir Mehr Ali Shah Arid Agriculture University Rawalpindi. **Address (Postal):** Faculty of Agricultural Engineering & Technology, PMAS Arid Agriculture University, Rawalpindi, Pakistan **Cell:**03215690951 **E-Mail:**aasimgulzar@gmail.com
Experience	❖ Assistant professor at Faculty of Agricultural Engineering & Technology, PMAS-AAUR Rawalpindi from From: 08 February 2015 To date…. ❖ Employer National Engineering Services Pakistan (Pvt.) Limited (NESPAK). From 01 July, 2011 To 19 February,2015. ❖ Employer National Engineering Services Pakistan (Pvt.) Limited (NESPAK). From10 January, 2008 To 30 June, 2011. ❖ Employer University of Engineering & Technology Taxila. From September, 2007 To January, 2008.
PEC REG.NUMBER	CIVIL/26876 (PROFESSIONAL ENGINEER)
MEMBERSHIP	Pakistan Engineering Council PROFESSIONAL SOCIETIES Member Institute of Engineers Pakistan

Name	**Engr. Tahir Iqbal** **Fathers' Name:**Zafar Iqbal **Date of Birth:**01 January, 1989 **Domicile:**MuzaffarGar, Punjab 
Personal	**Lecturer** Faculty of Agricultural Engineering & Technology, Pir Mehr Ali Shah Arid Agriculture University Rawalpindi. **Address (Postal):** Faculty of Agricultural Engineering & Technology, PMAS Arid Agriculture University, Rawalpindi, Pakistan **Address (Permanent):** Al- Kareem House Rajpot Colony, Civil Hospital Road Tehsil AliPur. **Cell:**008618618123194 **E-Mail:**tahiriqbal194@hotmail.com
Experience	❖ Lecturer (Agri. Engineering) at Faculty of Agricultural Engineering & Technology, PMAS-AAUR Rawalpindi from Dec-2011-to-date ❖ Instructor at Standard Polytechnic Institute, Faisalabad.
Publications	1. Hussain. Z., **T. Iqbal,** M. Ahmad and M. Usman. 2014. Development and fabrication of solar water distiller and impact assessment of frontal height on its productivity. Paper presented in International Conference on "Emerging Horizons for Sustainable Rural Development organized by Institute of Agricultural Extension and Rural Development, University of Agriculture, Faisalabad, Pakistan, on 27-28 February, 2014. (Abstract): 85. 2. Amin, M., M. Usman**, T. Iqbal** and Z. Hussain. 2014. Spatio Temporal Variation of Batura Glacier Using Remote Sensing and Geographic Information System Techniques. Paper presented in International Conference on "Emerging Horizons for Sustainable Rural Development organized by Institute of Agricultural Extension and Rural Development, University of Agriculture, Faisalabad, Pakistan, on 27-28 February, 2014. (Abstract): 86.

Name	**Engr. Muhammad Usman** **Fathers' Name:** Muhammad Afzal **Date of Birth:**16 March, 1988 **Domicile:** Faisalabad, Punjab 
Personal	**Lecturer** Faculty of Agricultural Engineering & Technology, PMAS Arid Agriculture University, Rawalpindi, Pakistan **Address (Postal):** Faculty of Agricultural Engineering & Technology, PMAS Arid Agriculture University, Rawalpindi, Pakistan **Address (Permanent):** P-184, Street # 03, Muhammad Pura, Main Bazar-I, Faisalabad. **Cell:** +92 3337675115 **E-Mail:us.usman791@gmail.com**
Experience	❖ Lecturer (Agri. Engineering) at Faculty of Agricultural Engineering & Technology, PMAS-AAUR Rawalpindi from Oct-2013-to-date ❖ Visiting Lecturer/Teaching Assistant (Agri. Engineering) at Faculty of Agricultural Engineering & Technology, PMAS-AAUR Rawalpindi from Oct-2013-Feb-2015 ❖ Technical Assistant (Water Management) in ACIAR project at PMAS-Arid Agriculture University Rawalpindi from April 2013-Jan-2015 ❖ Internee under National Internship Program at Directorate General Agriculture Punjab, Lahore from Feb. 2010 to 2011
Publications	1. Mahmood, S. and Usman, M. (2014).Consequences of Magnetized Water Application on Maize Seed Emergence in Sand Culture. J. of Agri. Sci. & Tech. Vol 16. No. 1 pp: 47-55. 2. Amin, M., M. Usman**, T. Iqbal** and Z. Hussain. 2014. Spatio Temporal Variation of Batura Glacier Using Remote Sensing and Geographic Information Techniques. Paper presented in International Conference on "Emerging Horizons for Sustainable Rural Development organized by Institute of Agricultural Extension and Rural Development, University of Agriculture, Faisalabad, Pakistan, on 27-28 February, 2014. (Abstract): 86.
Research Grants and Contracts	

Name of Project	Period of Implementation	Cost
Quality Investigation into Pilot Scale Wheat Flour Mill at PMAS_AAUR Funded by ORIC-PMAS-AAUR	1 years	Rs. 0.660 million
Modification, Testing & Evaluation of Indigenous Heating System Funded by ORIC-PMAS-AAUR	1 Year	Rs. 0.250 million

Name	**Engr. Zia Ul Haq** **Fathers' Name:** Muhammad Abdullah **Date of Birth:**2nd Jan, 1987 **Domicile:** Chakwal, Punjab 
Personal	**Lecturer** Faculty of Agricultural Engineering & Technology, PMAS Arid Agriculture University, Rawalpindi, Pakistan **Address (Postal):** Faculty of Agricultural Engineering & Technology, PMAS Arid Agriculture University, Rawalpindi, Pakistan **Address (Permanent):** Village & Post Office Baghwal Teh. & Distt.Chakwal. **Cell:** +92 333-5772063 **E-Mail:Engrziaulhaq@yahoo.com**
Experience	❖ Lecturer (Agri. Engineering) at Faculty of Agricultural Engineering & Technology, PMAS-AAUR Rawalpindi from 2016-to-date ❖ Visiting Lecturer since 2013 at Faculty of Agricultural Engineering & Technology, PMAS-AAUR Rawalpindi ❖ Working as Visiting Lecturer and also as a Researcherat 1st Indigenous Hydroponics system of Pakistan since 2013 at PMAS-AAUR ❖ Worked as "**Research Fellow**" at **"Agricultural and Biological Engineering Institute",NARC Islamabad.** For the period of 9 month.
Internships	1. 15 days Survey Camp in surveying and leveling (Abbottabad, Swat, Islamabad) 2. 15 days Internship in Barani Agriculture Research Institute Chakwal 3. 1 month internship on Wheat Sowing Campaign at Agriculture (Ext.) Office, Khushab

<table>
<tr><td>Name</td><td>Engr. Muhammad Akhlaq
Fathers' Name: Muhammad Ali
Date of Birth:10 October, 1988
Domicile: Sheikhupura, Punjab
  </td></tr>
<tr><td>Personal</td><td>Lecturer
Faculty of Agricultural Engineering & Technology, PMAS Arid Agriculture University, Rawalpindi, Pakistan

Address (Postal):
Faculty of Agricultural Engineering & Technology, PMAS Arid Agriculture University, Rawalpindi, Pakistan
Address (Permanent):
Muhallah Madian Nager Muride Key Road Farooqabad, Sheikhupura.

Cell: +92 332-3985080
E-Mail: m.akhlaq@uaar.edu.pk</td></tr>
<tr><td>Experience</td><td>❖ Lecturer (Agri. Engineering) at Faculty of Agricultural Engineering & Technology, PMAS-AAUR Rawalpindi from Jan-2016-to-date
❖ Assistant Executive Engineer (Agri. Engineering) at Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad, from Jun-2012-Jan-2016
❖ Research Assistant (Department of Irrigation and Drainage) in University of Agriculture, Faisalabad from Jun, 2011-Jun-2012.</td></tr>
<tr><td>Research Grants and Contracts</td><td><table><tr><th>Name of Project</th><th>Period of Implementation</th><th>Cost</th></tr><tr><td>Establishment of Small Scale Slaughter House at Main Campus Funded by ORIC-PMAS-AAUR</td><td>1 years</td><td>Rs. 0.369 million</td></tr></table></td></tr>
</table>

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 building is under construction that will include all the facilities necessary and required by HEC and PEC. However, currently students use the University main library where the facility of internet, e-library and access to read and download the scientific publications is available that is very helpful for the high quality education and producing research of international standard.

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 limited number of books, journals and periodicals related to Agricultural Engineering. The main library is equipped with the facility of internet and e-library but it does not have space capacity as per number of students in the University and there is no catalogue system for searching the books and other reading materials. Department itself is developing its own library with up-to-date infrastructure, facilities and with the availability of recommended and relevant books.

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

- The faculty is using the infrastructure of other faculty as its own building is under construction. Currently, the class rooms are equipped with CCTV cameras and multimedia facility for effective teaching.
- The numbers of classrooms are not enough with respect to number of students.
- Similarly, at present the department has shortage of laboratories and present labs facilities are not adequate.
- The temporary computer lab is not equipped with internet and printing facility.
- All the faculty members are provided offices but there is no internet facility because of that they are facing problem in research, teaching and other office matters as well.
- The faculty dean office is not adequate according to the requirement and working environment.

CRITERION 8

INSTITUTIONAL SUPPORT

The university administration has been striving to strengthen and up-gradation of all the departments, and establishing new Faculties and Institutes. The university is also trying to attract highly qualified faculty members. The university is also hiring on Tenure Track System (TTS) 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

The faculty has sufficient financial resources for infrastructure, Labs and Libraries and hiring new competent faculty members. However, as whole there are no attractive packages or facilities for faculty member on university level for example

- There is no proper maintenance/ documentation and investment of GPF deducted from salary. Similarly no benefit/ welfare from BF deduction available to faculty.
- Very meager benefit for faculty children's education at university level is available.
- The University has very limited residential facilities for faculty members at university campus and majority of faculty members remain in waiting list for a long time.
- There is no facility for employee’s children schooling. The university can collaborate with DPS (Division Public School) for specific seats for University faculty members at subsidize fees.

Standard 8-2: There must be an adequate number of high quality graduate students, research assistants and Ph.D. students.

The intake of B.Sc. (Hons) Agricultural Engineering students is once in a year. A strict merit policy is applied during admission that comprises of entry test and interview.

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

Although administration provides adequate financial resources, yet there is need to increase budget for effective operation and maintenance of Laboratories.

PERFORMA 2 (Annexure-A)

Faculty Course Review Report

PERFORMA 5 (Annexure-B)

Faculty Survey