

Community Services Profile

Muhammad Ashfaq Bokhari, PhD

Associate Professor

Department of Mathematical Sciences

King Fahd University of Petroleum & Minerals

Dhahran, Saudi Arabia

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1. Philosophy and Goals of Community Service

It is an undeniable fact that progress of any nation is based on the quality of its academic institutions whereas the quality of an educational set-up entirely relies on the vision and level of contribution by its faculty members. An academic institution cannot flourish or seek global/regional recognition or even survive without having an active participation of the faculty members in its policy matters whether academic or administrative. Therefore, the role of a university teacher is not confined to his teaching responsibilities or his contribution towards research but goes beyond such boundaries. To me a university teacher is incomplete if he/she does not possess the characteristics of being an academic mentor of the institution he/she is affiliated with. Therefore, it is a prime responsibility of a faculty member to contribute actively for the improvement/development of the institution's academic programs, provide his/her vision to make the administrative setup dynamic and above all, he/she should not be hesitant or afraid of giving his/her honest opinion about the affairs of the institution. I believe in this philosophy and I have tried my best to follow it since the time I got into the profession of Education.

To me the basic goal and essence of Community Services/Committee Work is to provide a forum that lets the faculty members understand each other, listen to others with patience, learn from other's ideas, criticize in a logical and professional manner without hurting others, be bold to accept positive opinion through discussion, and more importantly, let the juniors get along with seniors in the process of learning and making decisions. Thus, committee work is a gateway towards creating a healthy working environment in an institution and also preparing an able leadership of tomorrow. While getting involved in numerous committees with different assignments and objectives, particularly at KFUPM, I kept in view all these aspects and I am happy to say that the University recognized my contribution with appreciation at all levels.

2. Contribution at KFUPM

During my stay at KFUPM, I have served on various committees charged with designing, reviewing and developing math major/service courses. While dealing with any service course (calculus, linear algebra, differential equations or numerical methods), I usually discuss the matter with some faculty members of other departments to determine what they expect their students to know after taking this course. This experience helped me understand the math component and its level required for the engineering, computer science, and business management programs of KFUPM.

I have chaired several standing and ad-hoc committees and also contributed my ideas in the capacity of a member on many other committees. I have always devoted a suitable amount of time, whatsoever necessary, in order to

accomplish an assignment. While sitting in any committee, I kept in view the trust which the university administration bequeaths upon me.

Some of the tasks assigned to me were quite prominent and time-consuming according to their nature. A brief description of these is as follows:

A. Program Assessment Committee [2001-05]

I got involved in the process of “Program Assessment” in 2001 and attended several workshops organized by the Deanship of Academic Development (DAD) at the recommendation of the Department. The main objective of these workshops was to explain the objective and provide a vision about the preparation of a self-assessment report for the Department BS program. In September 2004, the Department setup a 6-member ad-hoc committee under my chair for preparing the required report according to the guidelines provided by the DAD. The committee took more than a year to draft “the Self-Assessment Report” which consisted of 3 volumes. The major activities which I coordinated were as follows:

- to organize Committee meetings almost every week,
- to lay out detailed program objectives and program learning outcomes,
- to conduct various surveys related to the program among the BS students, Alumni, Employers and the Math Faculty,
- to analyze the data collected from the surveys,
- to explore the requirements of BS Math programs of US institutions and perform a comparative study of these requirements with those at KFUPM,
- to prepare the detailed write-ups of all Math/Stat courses required for BS program,
- to collect the CV's of the Math Faculty according to a specific format
- to formulate recommendations and comments on various issues related to the program,

Being the committee chairman, I had to frequently interact with the Director Program Assessment (DAD), Department Chairman and Department Standing Committees to discuss issues related to the assessment. In addition, I executed the entire typing work in order to meet the deadline of submission for the report. In a way, I had to spend at least 15 hours a week throughout the academic year 2004-05 in order to accomplish the task. The assessment program was concluded with a visit of an Assessment Team headed by an expert from a US institution. I was appointed as a facilitator by the DAD for this team.

B. Prep-Year Math Program [2000-01 (T993-T011)]

During the academic years 2000-2002, I was designated as the coordinator of the KFUPM Prep-Year Math Program. The University assigned me the task of reorganizing the entire setup of this Program which involves 20 to 25 instructors who teach preparatory math courses to newly-admitted undergraduate students.

A part of this assignment/achievement included the

- creation of an independent administrative setup of the program

- supervision of construction and furnishing of the offices for the instructors in the OAB compound
- exploration of new instructors for the program
- selection of a new textbook for MATH 001/002
- introduction of computer aided learning with the help of a suitable software
- creation of task groups for various academic activities
- setting up the exam groups for MATH 001/002 exams
- preparation of manuals on study habits and English to Arabic terminology for the prep-year math students
- maintenance of a close liaison with the university administration on the matters related to the program, in particular, with Dean College of Sciences, Dean of Educational Services, Vice Rector for Academic Affairs and H.E. the Rector.

I used to organize a one-day instructors' workshop at the start of each academic term. The workshops provided a forum to the instructors to express their views and experiences related to teaching methods, use of teaching aids, mode of recitation classes, and students' academic problems and possible remedies.

An exclusive 3-day instructors' workshop was also organized in the last week of August 2001, in which the author of the textbook was invited as the keynote speaker at the expenses of the textbook publishing company. This workshop concluded with several recommendations which, with the contribution of the textbook's author, were submitted in the form of a report to H.E. the Rector.

In the term 012, I conducted an in-class experiment with the help of other multi-lingual instructors for a group of newly admitted students in the P-Y Math program. These students normally have significant exposure of Algebra & Trigonometry during their high school studies. The objective of the experiment was to explore the means of utilizing the student's High School Knowledge that may help to accelerate the pace of coverage of MATH 001 contents. During the experiment, the 1st two chapters of the textbook were taught with the help of transparencies that carried an Arabic translation of mathematical terminology, relevant concepts/definitions in English, and corresponding examples followed by exercises. The students were encouraged to recall the material through looking at the Arabic translation of a concept and then understand the definitions and examples given in English. They were asked to attempt the exercises in the class immediately after understanding the concepts provided through transparencies. This experiment provided enough time to cover 3 additional sections of the text up to Exam I. The students were found more interactive in the classroom lectures during the period of experiment. A detailed report on the outcome of the experiment was submitted to the administration.

C. Undergraduate Committee [1989-1997, 2005]

I have been the chairman of the Department Undergraduate Committee that reviewed the entire BS Math Program of KFUPM during the period 1993-1997. It was a rigorous exercise in which I supervised the following tasks with the help of the Undergraduate Committee, Scientific Groups of the Departments and various ad-hoc committees exclusively set up for the review of BS program:

- Consultation with the KFUPM academic departments for the Math/Stat topics required in their BS program.
- Survey of leading US universities regarding the format of Math/Stat service courses.
- Review of prerequisite/co-requisite courses in the Math Program.
- Survey and selection of new textbooks for each courses.
- Modification of 32 Math major/service courses.
- Inclusion of five new courses for the Math program.
- Detailed syllabi indicating pace of coverage for each course.

The revised program was submitted to a team of academicians from the University of California, Berkeley in 1996 for its thorough review. The team at the time of its visit to the Department in 1997 narrated the following opinion about the revised program:

“The undergraduate program in Mathematics is a very solid and broad program that offers a very good preparation to a student planning to do graduate work in mathematics. KFUPM has no need to be envious of any first rate university, in terms of its undergraduate education in mathematics”.

D. Numerical Analysis and Optimization Group [2002-2005]

The department of Mathematical Sciences has constituted several scientific groups in various areas of mathematics. These groups take care of several aspects related to the relevant areas. Being the Coordinator of Numerical Analysis and Optimization Group over a period of three years, I

- monitored the review process of the list of journals related to the research areas of the Group for future subscription at the KFUPM Library,
- initiated a proposal for a new graduate course in Numerical Linear Algebra,
- submitted several plans of a term-long Lecture Series in the areas of “Wavelets & Applications” and “Image Processing” which were offered during the terms 031, 032, 041 and 042.
- collected 22 titles on the subject of “Numerical Analysis” from different publishers to finalize the textbook for Numerical Analysis courses.
- reviewed and selected the suitable titles for MATH 321, 471, 472 with the help of group members and submitted the committee recommendations to the Department Chair.

- reviewed the course contents of Undergraduate and Graduate courses on Numerical analysis/Optimization.
- organized “Numerical Analysis Open Day”
- prepared the Group activity Plan for the following academic years
- corresponded with reputed leading researchers in the area of Numerical Analysis for their possible visit to the Department.

E. Calculus Committee [2002-2003]

The committee was set up for the first time in the Department. Being the committee chairman, I brought several issues to the attention of the committee members which were related to the calculus sequence courses: MATH 101, 102 and 201. The committee after deliberating over a period of one year submitted three reports to the Department Chairman regarding the adjustment of calculus sequence contents, prerequisite material for each calculus course, appropriate use of recitation classes, in-class use of technology, and the selection of appropriate calculus text.

F. Award Committee on Excellence in Teaching [1989-97, 1998-06]

I have been involved as Chairman/Coordinator of the Department Award Committee for excellence in teaching since 1989. As part of my individual responsibility, I have to arrange the data required for the award that include:

- Input of Graduating students and Advisees,
- Collection of concerned data from other departments.

As a committee chairman /coordinator, I have to arrange the committee meetings in order to

- Review the data,
- Finalize the department nomination for Distinguished Teaching & Advising Award.

During the year 2005, I was asked to chair the **College Committee** which is responsible to finalize the College nominee for the University award. Besides accomplishing this task with the contribution of the representatives of other departments of the college, the Dean asked me to prepare a detailed report on the drawbacks, if any, in the current rules and regulations related to the award. The desired report was submitted and presented for approval in the College Council as well.

G. Organizing Committees

I have been part of some organizing committees such as:

- Algebra Workshop (1999) (C)
- Industrial Math Workshop (2002) (M)
- Math Exhibition (2000) (C)
- Prep-Year Math Workshops [Terms 001, 002, 012] (C)
- 3-day Prep-Year Math Workshop in which the author of the textbook was a keynote speaker [Term 011].

H. Other Committees

The aforementioned detail may be regarded as an example of the level of my contributions in standing/ad-hoc committees. In general, I had an opportunity to sit in several committees from time to time which were set up by the Department/College/University standing:

- Planning & Development Committee (M)
- Graduate Committee (M)
- Undergraduate Committee (C & M)
- Calculus Committee (C)
- Faculty Search Committee (M)
- Research Committee (M)
- Schedule Committee (C)
- Analysis Group (C & M)
- University Housing Committee (M)
- University Library Committee (M)
- Pre-Year Advisory Committee (C & M)

Some of the ad-hoc committees/scientific groups in which I have a noticeable contribution are as follows:

- Issues related to Coordinated Exams (C)
- Calculus Courses for (C & M)
 - Preparation of Syllabi
 - Increasing credit hours from 3 to 4
 - Utilization of 4th Hour
- Preparation of Syllabi for MATH 311,411, 412 (C)
- Review of KFUPM Exam Rules & their Implementation. (M)
- To find the Causes for Student's Low Performance in Math Service Courses. (M)
- Formulation of Rules for Math Summer Training Program. (M)
- Evaluation of Academic Programs of College of Sciences (M)
- Mathematics Learning Center (M)
- Contents of Math Courses for Hail University (M)
- College News Letter (M)
- Selection of Textbook for
 - Numerical Analysis Courses (C)
 - Linear Algebra & Differential Equations (M)
 - Calculus (C & M)
- Faculty Promotion to Higher Rank (M)
- Measures to increase Enrollment in College Programs (M)
- Space Requirement for faculty Offices (C)
- Job Opportunities for Math Graduates (M)
- Promotion of Statistics as a Major (M)

3. Contribution in other Institutions

Other than KFUPM, I had an opportunity to contribute in the academic/administrative setup of the following institutions:

- Bahaudin Zakariya University (BZU), Pakistan (1975-1979; 1986-1988)

- University of Alberta (U of A), Canada (1980-1985)
- National University of Sciences & Technology (NUST), Pakistan (1997-1998).

A. BZU(1975-79)

- i. In-charge, Department of Mathematics (1976-1977):
“Responsible to take care of all administrative and academic affairs of the department.”
- ii Member, Department Board of Studies (1976-1979):
“Contributed in the Curriculum Development and Examinations related matters.”
- iii. President, University Academic Staff Association (1978-1979)
“Prepared working rules and regulations of the association; designed policy for the award of foreign scholarship to the university teachers; organized social events for the teaching community; organized a workshop on semester system.” Worked for the affairs related to welfare of the university teaching community.”
- iv. Member, Organizing Committee for Urdu Science Conference (1978)

B. U of A (1980-85)

Representative of Graduate Students in the Department Council (1984-1985):
“Took up various matters related to Students Teaching Assistantship; Suggested modifications for the rules and regulations related to Ph. D. Qualifying Examinations.”

C. BZU(1986-88)

- i. In charge of the revision of M.Sc (math) curriculum (1986-88):
“Revised entire curriculum of M.Sc program in Mathematics with the involvement of other faculty members; introduced an option of “Computational Mathematics” in the revised curriculum; designed some courses on linear algebra and optimization techniques.”
- ii. President, University Academic Staff Association (1987-1988):
“Represented faculty in various bodies of the university; Suggested rules and regulations related to faculty promotion, allocation of university housing and other benefits like medical allowance, car/house loan etc; Organized social events and outdoor trips for the faculty.”

- iii. Member, University Chancellor's Committee (1987-88)
"Participated in the discussions/decisions related to all kinds of university matters."
- iv. Member, University Convocation Committee (1987)
"Organized housing and transportation facilities for the convocation guests."

D. NUST(1997-1998)

- i. Member, Faculty Board (1997-1998):
"Participated in the discussion related to academic rules and regulations; revision/design of courses related to bachelor and master programs."
- ii. Other Contributions in the Department and College
 - *Introduced recitation classes in the calculus and applied math courses at the bachelor level.*
 - *Member of interviewing team for prospective faculty in mathematics.*
 - *Submitted a detailed report identifying the drawbacks in the existing academic system of the College with possible remedies.*

4. Reports

Being chairman/coordinator of a committee/scientific group, I submitted detailed reports on the assigned tasks. Some of the reports run over several pages. The worth-mentioning among these are:

- i. Self-Assessment of Undergraduate Program in Mathematics
- ii. Revised Undergraduate Program
- iii. Graduate Program in Analysis
- iv. Suggestions for Award Rules concerning Excellence in Teaching
- v. Procedure for Change of Textbooks
- vi. Prep-Year Math Exams
- vii. Issues related to Coordinated Exams

5. Presentations/Public lectures on academic matters

I feel obliged to convey my ideas and vision on academic issues either at my own initiative or at the request of an institution. My audience in these presentations varies from higher authorities of an institution to high school students. I usually use power point or an overhead projector for my presentations. The details of these presentations may be found in the CV.
