

Community Services/Committee work

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1. Philosophy and Goals of Community Service

The quality of an educational set-up in an academic institution entirely relies on the vision and level of contribution by its faculty members. An academic institution cannot flourish or even survive without having an active participation of the faculty members in the design of its academic and administrative policies. Therefore, the role of a university professor cannot be perceived merely as a teacher or a researcher. A faculty member at the university level is expected to work actively for the improvement and development of the institution's academic programs. He/she should not be hesitant to give his/her honest opinion about the affairs of the institution. I believe in this philosophy and try to opt it as much as I can.

In my view, the Community Services/Committee Work provides an excellent forum to share ideas and let the junior colleagues get along in the process of learning and making decisions.

2. Contribution at KFUPM

During my stay at KFUPM, I have been serving on various committees charged with designing, reviewing and developing math major/service courses. While dealing with the structure of any service course (calculus, linear algebra, differential equations or numerical methods), I usually discuss the matter with concerned faculty members of other departments and 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 relevant academic program.

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 always devote enough time for the accomplishment of an assigned task. While sitting in a committee, I kept in view the trust which the university administration bequeaths upon me.

Some tasks I got involved in were quite significant and time-consuming according to their nature. A glimpse of my contribution in some is as follows:

A. Program Assessment Committee [2001-05]

I involved in the process of "Program Assessment" in 2001. Initially, to get awareness of the assignment, I was nominated by the Department to attend some workshops organized by the Deanship of Academic Development (DAD). 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 for preparing the required report according to the guidelines provided by the DAD. I was asked to chair the committee. The committee took more than a year to draft "the Self-Assessment Report" which resulted in 3 volumes. Some of the tasks I coordinated were as follows:

- to organize Committee meetings almost every week,
- to prepare the lay out of program objectives and program learning outcomes for committee discussion,
- 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 from selective US institutions and perform a comparative study of these requirements with those at KFUPM,
- to prepare the detailed write-up of all BS Math/Stat courses,
- to collect the CV's of the Department Faculty in 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 expedite the work and meet the report submission deadline. In a way, I had to spend at least 15-20 hours a week throughout the academic year 2004-05 in order to accomplish the task. The self-assessment report was reviewed by an Assessment Team headed by an expert from a US institution. I was a part of this team as a facilitator.

B. Design of Math Courses for Hail University [2005-06]

At the time of elevating the Hail Community College to a University, the Vice-Rector appointed a committee charged with designing the physical sciences courses required for the engineering computer and business programs of this institution. I being a committee member prepared the contents of mathematics courses and adjusted their contact hours keeping in view the level of prospective students. The task was accomplished in consultation with some faculty members of other academic departments at KFUPM.

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

During the academic years 2000-2002, the University nominated me as the coordinator of the Prep-Year Math Program. I was assigned the task of reforming the entire setup meant for newly-admitted undergraduate students.

A part of this assignment/achievement included

- the creation of an independent administrative setup of the program
- the supervision of the construction and furnishing of the offices for 20-25 instructors,
- the exploration of new instructors for the program,
- the selection of a new textbook for MATH 001/002,
- introduction of computer aided learning in the program

- the creation of task groups comprising of instructors for various academic activities of the program,
- the setting up the exam groups for MATH 001/002 exams,
- the preparation of a concise booklet on English-Arabic math terminology and a manual on study habits for the prep-year math students,
- a close liaison with the university administration on the matters related to the program, in particular, with the Dean College of Sciences, the Dean of Educational Services, the Vice Rector for Academic Affairs and the Rector.

I introduced a one-day workshop for the prep-year math instructors at the start of each academic term. The workshop provided them a forum to express their views and experiences related to teaching methods, use of teaching aids, mode of recitation classes, and students' academic problems with possible remedies.

In August 2001, I organized a 3-day instructors' workshop in order to discuss the contents and structure of the newly selected textbook for MATH 001/002. For this purpose, Professor Aufmann, the author of the textbook, was invited as the keynote speaker at the expense of the textbook publishing company. This workshop concluded with several recommendations and a thorough report on the program by the textbook's author.

During the term 012, I conducted an in-class experiment with the objective how to utilize student's High School knowledge in the prep-year math courses. The experiment involved eight instructors. Special transparencies based on course material were prepared in English with the insertion of Arabic translation of mathematical terminology. This helped the students recall their relevant high school knowledge and provided them enough time to attempt exercises during the class timings. 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.

D. 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 coordinated exercise in which the objective was achieved with the help of the Committee members, Department Scientific Groups and various ad-hoc committees exclusively set up for this purpose. Following tasks were taken up during the process of revision:

- 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 reviewed by a team of academicians from the University of California, Berkeley in 1996. The team while visiting the Department in 1997 put on record 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”.

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

Being the Coordinator of Numerical Analysis and Optimization Group over a period of three years, I

- initiated a proposal for a new graduate course in Numerical Linear Algebra,
- reviewed the contents of Undergraduate and Graduate courses on Numerical analysis/Optimization.
- organized 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.
- arranged 22 new titles from various publishers for selecting suitable texts for Numerical Analysis courses.
- supervised the review process of the selective titles for MATH 321, 471, 472 with the help of group members and submitted the committee recommendations to the Department.
- organized “Numerical Analysis Open Day”
- corresponded with some of the leading researchers in the area of Numerical Analysis for their possible visit to the Department.
- conducted review of the of list of journals on Numerical Analysis for future subscription at the KFUPM Library,

F. Calculus Committee [2002-2003]

This committee was set up in the Department in 2002. Being the committee chairman, I picked up several issues related to the courses on calculus sequence for discussion. The committee after thorough deliberation submitted three reports to the Department on 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.

G. 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 a part of my individual responsibility, I 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 organize the committee meetings in order to

- Review the data provided by the award applicants,
- Finalize the department nomination for Distinguished Teaching & Advising Award.

During the year 2005, I chaired the **College Committee** responsible to finalize the College nominee for the University award. Besides other responsibilities, I was asked to prepare a detailed report on the drawbacks/ anomaly, if any, in the award rules and regulations. The desired report was presented before the College Council and the University Academic Committee.

H. 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].

I. 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. These partially includes:

- 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.
