

**KING FAHD UNIVERSITY OF PETROLEUM & MINERALS  
DHAHRAN - SAUDI ARABIA**

*Proposed Policy for Selection of Majors at KFUPM Committee*

## **Memorandum**

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**Date** : **March 2, 2004**

**To** : **VICE RECTOR FOR ACADEMIC AFFAIRS**

**From** : **Chairman, Ad hoc Committee**

**Subject** : **FINAL REPORT OF THE COMMITTEE**

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This Ad Hoc Committee was formed and charged with “*studying the Proposed Policy for the Selection of majors at KFUPM after obtaining feedback from Department and College Councils*”. The committee has convened 10 meetings and discussed the subject extensively, after obtaining the necessary feedback from Department and College Councils through their respective deans. After thorough discussion and debate, and after going through several versions of the proposed policy, we have come to agree on the proposal detailed in the attached final report. I am pleased to attach the *Final Report of the Committee*. I hope that you find the attached proposal acceptable and that it serves your needs.

Thank you.

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**Dr. Habib Abul Hamayel**  
**Chairman, Ad Hoc Committee**

*King Fahd University of Petroleum and Minerals*

*Ad Hoc Committee to Study  
Proposed Policy for Selection of Majors at KFUPM*

*Final Report  
2004*

*Committee Members:*

*Dr. Habib I. Abualhamayel,  
Dr. Adel S. Aldosary,  
Dr. Hocine Bahlouli,  
Dr. Abdul Wahed Al-Saif,  
Dr. Eid S. Al-Shammari,  
Mr. Ahmad A. Al-Dharrab*

# *SUGGESTED POLICY OF MAJOR SELECTION AT KFUPM*

## **COMMITTEE CHARGE:**

The Committee is charged with studying the proposed policy (Controlled Free Choice concept, proposed by Dr. Adel Al-Dosary) for selection of majors at KFUPM.

## **Findings and observations:**

- The existing admission and major scheme produced underutilization of some departments and programs.
- Promotion to the freshman level after the Prep Program is semi-restricted in the current system, since some Colleges/Programs require specific performance level in Math.
- There is no clear evidence that it outstretched programs for a sustained period of time, with the exception of MIS, which is a spike in the overall scheme of things.
- The input of most departments was less direct and more philosophical than necessary.
- After the formation of this ad-hoc committee to study a new policy for major selections by KFUPM students the committee decided in its first meeting to solicit all academic department for their input. In this respect a detailed letter was sent to all academic Deans requesting input from their respective departments regarding :
  - Projected ideal enrollment for the coming five years in view of the conditions and statistical data for the last 2 years which was provided to them by the committee.
  - Study the initial proposal on controlled free choice ( CFC) that was initiated by Dr. Aldosary .
- **The input of various colleges can be summarized as follows :**
  1. **College of Computer Sciences and Engineering :**

The COE department is in favor of the controlled free choice scheme while the ICS and SE are against. They pointed out that the CFC will have a negative impact on student interest. A career planning center is needed at the prep-year level in the light of national manpower need to fulfill the market demands.
  2. **College of Engineering Sciences :**

The ME department generally agrees with the development of a new policy for major choice at KFUPM. They had some reservation concerning the CFC proposal. They suggested that KFUPM student should be accepted from start in specific colleges and an appropriate prep-year program for each college. The main determining factor for the size of each academic department should be determined by the job market.

The CHE department's input did not deal at all with the CFC proposal but instead they have sent us a case study by Dr. Laughlin which most probably was written independently of our request. An important point was mentioned though that the CHE department went through difficult times in trying to cope with sharp rise in the number of their students in the mid 90's.
  3. **College of Environmental Design: Observations and Suggestions**
    - a. CFC will improve the efficient utilization of resources.
    - b.  $GPA \geq 2$  is not practical.

- c. Student should select 10 choices from the start (ARE suggested 4)
- d. Introduce a course on “career planning” in prep-year program.
- e. Implementation of the “career oasis” program
- f. Directing low GPA students to CED & CIM will damage the image of the departments and affect negatively the programs.

#### **4. College of Industrial Management**

- a. All departments are not in favor of the CFC method.
- b. Selection of majors is based on social influence and market demands.
- c. Low enrollment in some majors is not a good reason to change the policy.
- d. Departments suffering from large enrollment may put a temporary restriction.

#### **5. College of Sciences**

##### **a. Math Department.**

- i. In favor of CFC
- ii. Selection of majors for Science & Engineering should be at the Freshman level while CED & CIM may require a different scheme.

##### **b. Physics:**

- i. Low GPA Students use Physics and other departments as a transit states to improve their GPA then transfer into Engineering.
- ii. CFC may solve the problem partially and temporarily.
- iii. The job market should be considered.
- iv. CFC will direct low GPA students to major in CS.
- v. GPA of 2.5 or above for a student to major in Physics will stop the in-flow of low GPA student to the CS.

##### **c. Earth Sciences:**

- i. Support the CFC
- ii. Students with GPA lower than 2 may be given the choice to select other departments who do not require strong background in MATH 001 & 002.
- iii. Implement the CFC on trial bases for 2 years.

##### **d. Chemistry:**

- i. CFC misses the fact that the current approach is not as ‘free’ as the proposal states. Certain departments already apply some constraints.
- ii. Students should select their majors after the Freshman year or a student with GPA of 2.5 or more by the end of Freshman should be allowed to change his major.

- To sum up according to the above input, we see that colleges with low enrollment welcomed the idea of CFC but suggested some fine tuning to the proposed strategy. Unfortunately most of the high enrollment colleges did not take the matter seriously even though it was pointed by the CHE report that they did suffer from the high enrollment in the mid 90’s. Thus the issue of preventing large fluctuations in these colleges was not dealt with.

#### **Committee’s position:**

Adapt a fine tuned version of the proposed Controlled Free Choice concept. The attached flow chart highlights the main features of this scheme.

**Definition of terms:**

- **CFC:** Controlled free choice scheme of students' admission at KFUPM.
- **College Capacity:** Estimated number of entering students to a college in a particular year
- **Program Capacity:** Estimated number of entering students in a specific major in a particular year.
- **Attritions:** Estimated number of students from an entering class who are expected to leave the university permanently for any reason.

**Justification and rationale:**

- The existing scheme produces inefficiencies, particularly by underutilizing some departments and majors
- Underutilization in the face of existing and increasing demand on higher education is not easily defensible
- There is no clear evidence that the current system reflects well enough the market demand. Responsiveness to the market demand is not efficient or timely.
- There is no evidence that the current system scheme reflects students' real interests or aptitudes. Students' choices of majors are probably more related to crowd mentality, peer choices, stereotyping, etc.
- Attachment to the current system is not necessarily purely rational. There is no clear evidence that the perception that it produces what it supposed to produce (i.e. service of student academic interest and aptitude and accurate reflection of valid market determinism) is accurate. The attachment is probably more related to the desire of the ideal and to hanging to the tradition.
- The revised CFC will deal with the problem of underutilization
- The revised CFC will allow KFUPM to increase its intake without expanding the existing resources.
- The revised CFC allows the University to determine departmental capacities in a manner more reflective of the national needs
- The revised CFC may motivate students to study harder, since meeting their preferences will be perceived, at least partially, as a function of their performance (i.e. preferences will be met on a meritorious basis)
- The revised CFC will be perceived as fair, since preferences and choices are connected to some sort of performance measures.

**Potential problems:**

- The new scheme is more complex to manage
- The new scheme requires accurate and valid determination of capacity that must be reflective of efficient utilization of existing resources (even in the populated programs), reflective of national needs, stretching enough to pressure departments to procure resources, and take into account future needs.

**Issues related to capacity:****A. Capacity at current situation:**

- Departments have no direct control on determining its size in terms of the number of students.
- Departments adjust to or react to student body size by increasing their resources (e.g. intensify faculty recruitment).

**Organizational dynamics involved in the current situation:**

- Departments are kept on their toes to adjust to the demand on their programs.
- When the Department is growing in terms of students, they intensify recruitment and find it necessary to be more efficient in utilizing existing resources.
- When the Department is shrinking in terms of students, they may relax their recruitment efforts but will be less likely to reduce their resources.
- Departments with shrinking student body will find ways to inefficiently utilize resources, rather than reduce them (e.g. reduce load, reduce section size, etc.)

**Other organizational dynamics expected in all situations:**

- Department's size is a source of perceived power or prestige in the University
- Efficiency and the propensity to build power are not necessarily compatible.
- At the Departmental level, perspectives are less macro and more influenced by interdepartmental competition.
- Once an organizational unit or program is established, it will refuse to die.
- There is no guarantee that existing attitudes and methods of operation will hold when a specific change (e.g. departments controlling their capacity) is assimilated and internalized. The institution must put guards as part of the change to be sure that desirable attitudes are maintained.

**B. Determining Capacity under the Revised CFC Admission Scheme:**

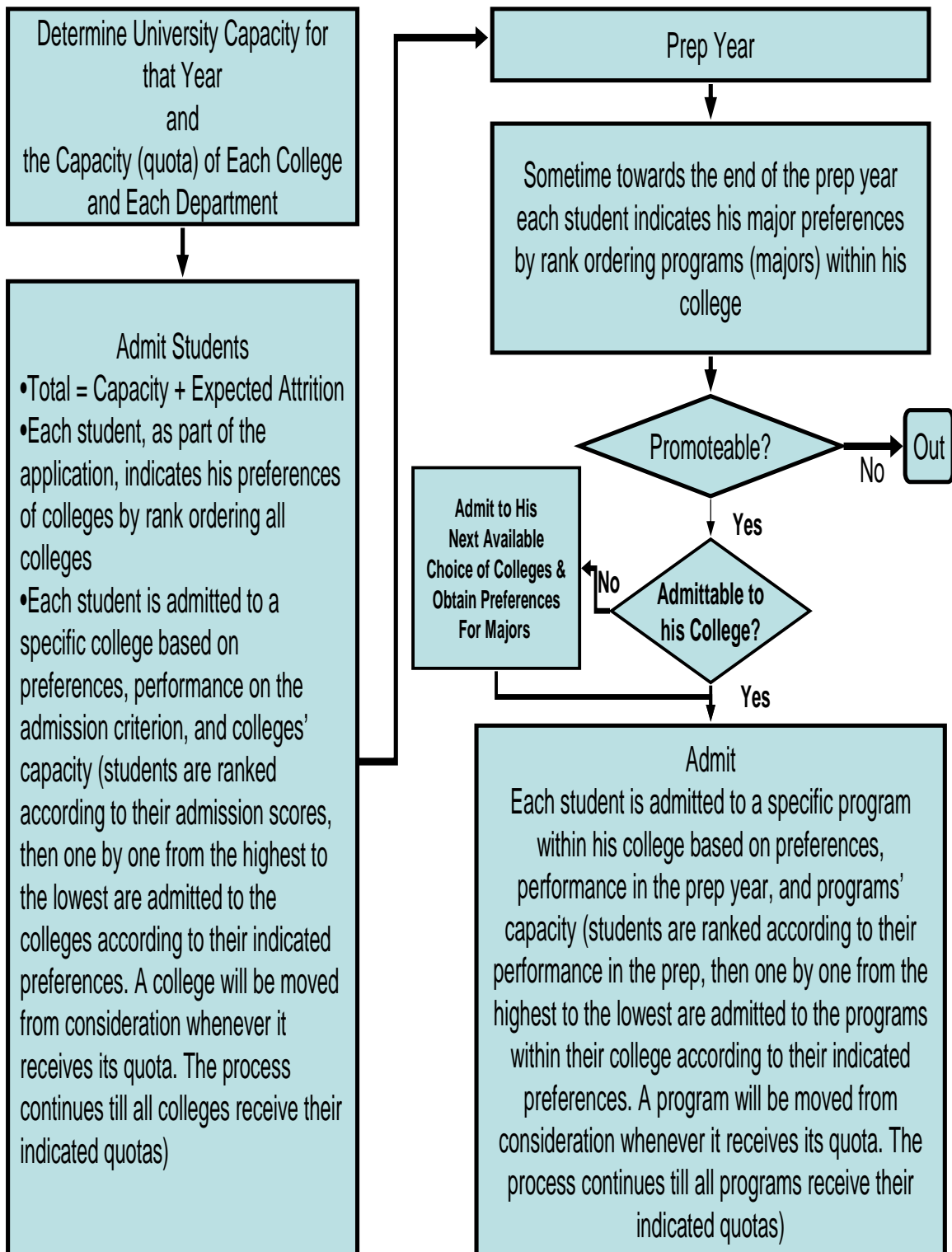
*Concerns:*

- Under the revised CFC admission scheme, capacity at the program level needs to be determined a priori (which is the reverse of the current scheme).
- An important concern will be on the potential dynamics of this process
- Is there a concern about the validity of departmental or college estimation of capacity?
- What is the potential of over or under estimations if done primarily at the departmental or college level?
- Departments are expected to avoid pressures usually associated in adjustment periods when the demand on them is growing. Departments will prefer slow growth over fast growth unless they have excess capacity.
- Departments' perspective on efficiency is expected to be more conservative than the perspective of the University or the society (due to internal dynamics and due to their being relatively shielded from external social pressure).
- Internal dynamics and politics at the departmental level will influence capacity estimation (there will be tendencies to resist load increases or section size increases)
- The attitude toward recruitment when it needs to be a proactive process (the new situation) will be different from it when it was a reactive process (the existing situation).

- Under the existing scheme, recruitment effort and its intensity is a reaction to an imposed student body size
- Under the revised scheme (CFC), departments will be tempted to estimate capacity in light of history and existing and assured resources. The danger is from the potential of holding resources (e.g. number of faculty) almost constant for the purposes of capacity estimation (i.e. there is no external pressure on departments to intensify recruitment or to increase the utilization of existing resources)
- Relying alone on the illusive motivation of departments to be the biggest and largest is not and should not be the only guard.

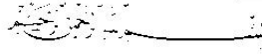
***Remedy and guards:***

- Capacity final estimation should be at the University level
- Input of departments and colleges should be an important factor in the process.
- Capacity determination should take into account the national and market needs for graduates in certain fields (there is no need to oversupply just to utilize a capacity or undersupply by holding a capacity constant).
- Capacity final estimation should take into account more objective measures such as actual and real utilization of existing resources.
- Capacity final estimation should include enough pressure on departments to intensify recruitments if needed.
- Capacity final estimation should not be held hostage to the simplistic load history and its associated inefficiencies. It should focus more on the hidden numbers such as credit hours generated per faculty.
- Capacity final estimation should take into account the historical fact that departments when pressured they adjust and deliver.
- *There will be a need to have a more accurate and systematic forecasting system. The University needs to establish a unit for forecasting its needs and requirements to be more in tune with the market and national needs.*





# *Appendix*



Ministry of Higher Education

King Fahd University of Petroleum & Minerals

OFFICE OF THE VICE RECTOR FOR ACADEMIC AFFAIRS



وزارة التعليم العالي

جامعة الملك فهد للبترول والمعادن

مكتب وكيل الجامعة للشؤون الأكاديمية

## MEMORANDUM

DATE : 01 Jamada'l. 1424H (01 July, 2003)  
TO : Members of the ad hoc committee  
SUBJECT : **PROPOSED POLICY FOR SELECTION OF  
MAJOR AT KFUPM**

On the recommendations of the Academic Committee, in Meeting No. 24/2002-03 dated 24 June 2003, H.E. the Rector has approved the appointment of an ad hoc committee consisting of the following members:

- |    |                           |                 |
|----|---------------------------|-----------------|
| 1. | Dr. Habib I. Abualhamayel | ME - (Chairman) |
| 2. | Dr. Adel S. Aldosary      | CRP             |
| 3. | Dr. Hocine Bahlouli       | PHYS            |
| 4. | Dr. Abdul Wahed Al-Saif   | SF              |
| 5. | Dr. Eid S. Al-Shammari    | MGT MKT         |
| 6. | Mr. Ahmad A. Al-Dharrab   | Registrar       |

The ad hoc committee is charged to study the proposed policy for selection of major at KFUPM after obtaining feedback from the Department and the College Councils. The committee shall submit its final report to the Academic Committee for consideration and appropriate recommendation to H.E. the Rector.

A copy of the minutes of meeting containing the details of the deliberations on this subject, and the Academic Committee's recommendations, duly approved by H.E. the Rector, along with a copy of the proposal, are enclosed herewith for information.

Thank you.

*A. Suwayyan*  
Prof. Abdulaziz A. Al-Suwayyan  
Vice Rector for Academic Affairs

cc: H.E. the Rector  
Dean of Admissions & Registration  
All Academic Deans

SC-Major  
2-7-03

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