

Department of Chemical Engineering

March 1, 2013

Subject:- Undergraduate Curriculum Implementation

This is with reference to your note No. IITD/ADAC-97 dated 8/2/2013 on the subject mentioned above. The same was discussed in DFB Meeting held on 18.2.2013 and 25.2.13. Please find enclosed minutes of DFB meeting (refer item No. 4 and 5) for your ready reference and necessary action.



(S. Basu)
Head of Dept.

Dean (Academics)

Dept.: CHEM. ENGG.
Ref. No. 20..13.....BCHE..609
Date...11/3/13

Minutes of the DFB meeting held on 18.2.2013 and 25.2.13.

Members present on 18.2.2013

1. Prof. S. Basu - Chairman
2. Prof. A.K. Gupta
3. Prof. B.P. Mani
4. Prof. Ratan Mohan
5. Prof. K.K.Pant
6. Dr. Anupam Shukla
7. Prof. Anurag Rathore
8. Prof. S. Roy
9. Dr. M.A. Shaik
10. Dr. Jayati Sarkar
11. Dr. S.K. Pattanayek
12. Dr. Sanat Mohanty
13. Dr. Shalini Gupta
14. Dr. Gaurav Goel
15. Dr. Paresh Chokshi
16. Prof. A.K. Saroha - Secretary

Members present on 25.2.2013

1. Prof. S. Basu - Chairman
2. Dr. V.V. Buwa
3. Dr. Munawar Shaik
4. Prof. K.K. Pant
5. Dr. Jayati Sarkar
6. Prof. S. Roy
7. Dr. Gaurav Goel
8. Dr. Paresh Chokshi
9. Prof. Ratan Mohan
10. Prof. Rajesh Khanna
11. Prof. A.K. Gupta
12. Dr. Anupam Shukla
13. Dr. Sreedevi U.
14. Prof. Anurag Rathore
15. Prof. A.K. Saroha - Secretary

1. DFB observed that there is no Institute gold medal for highest CGPA and Department Silver Medal for two-year M.Tech. students whereas same is awarded to Dual Degree M.Tech. Students. In view of this, DFB recommended that there should be a separate Gold Medal at the Institute level and Silver Medal at the Department level (for all programs together) for 2 year M.Tech. degree students. DFB recommended forwarding the above recommendation to Dean (Academics).
2. The DFB approved that designated faculty members teaching Process Engineering Course and a Senior TA may utilize Department Development Fund (DDF) for travel purpose to attend the ProSim training.
3. DFB reviewed the progress on development of Department Core courses for the proposed new Curriculum. In context of this, it was suggested that the list of courses and the content of the courses should be decided based on topics to be covered.

4. **Discussion on feedback requested by Dean, Academics:**

Tutorials: All three proposed models were discussed. DFB was of the view that all models should be retained and Departments should be given the freedom to use the model of their choice for a particular course (to be disclosed in course template). Minor modifications were recommended.

- (i) The DFB agreed that only 100 and 200 level courses will have tutorial component. Department Elective courses will not have the tutorials or practicals.

- (ii) DFB was of the opinion that in a 3-0-0 course where certain number of contact hours are to be used by instructor for problem solving sessions, the choice of the number of such hours should be left to the instructor.
- (iii) **Scheduling of 1st year/ 2nd year courses:** The DFB agreed with the scheduling of 1st year/2nd year courses.
- (iv) **Mathematics courses:** It was decided that Chemical Engineering students should have Maths 1 course in their first semester followed by Maths 2 course in the second semester.
- (v) **Physics course:** The DFB suggested that the contents of the first year Physics course may be modified to incorporate the following topics:
- Classical and Realistic Mechanics
 - Kinetic Theory of Gases
 - Optics
 - Physics of Materials

DFB felt that for Chemical Engineering students, adequate coverage of above topics is desirable, particularly in view of the diverse background of entering students.

- (vi) **Chemistry Courses:** DFB felt that the coverage proposed is very wide and too advanced for first year students. As per request from HOD Chemical to HOD Chemistry three faculty members from Chemistry Department (Prof. N.G. Ramesh, Prof. Shashank Deep and Prof. P.K. Chowdhury) attended DFB meeting and clarified objective of the basic Chemistry Course. The DFB felt that if the template proposed by Chemistry Department is accepted as it is, there is a need for a separate course with physical chemistry and organic chemistry content, which may be considered PLBS for Chemical Engineering students. Faculty members from Chemistry have agreed to consider floating such courses. The content of such courses will be decided through mutual discussion between the two departments.
- (vii) **Biology Course:** DFB has the following three suggestions on the course Introduction to Biology.
- The course content should include Cell Structure, DNA Structure, Cell Growth Kinetics, Cell Metabolism, Protein Structure and Stability and Protein Folding.
 - The topics under 'Stem Cell Biology-Degeneracy in Biology' and 'Cancer Biology-Control Systems in Biology' can be reduced to 1 lecture.
 - The topic under 'Engineering Designs inspired by Examples in Biology' can be explained to 6 lectures and should cover Biology related to technology development i.e. Examples linking Biology with major disciplines of Engineering-Biology and Chemical Engineering, Biology and Mechanical Engineering, Biology and Computer Science etc. should be discussed in each lecture.

- There should be a better alignment between the lectures and laboratory component. It is desired that the students discuss a topic in the lectures followed with the experiment on the same topic.
- (viii) **Electrical Engineering:** The DFB was of the opinion that it is a well designed course.
- (ix) **Engineering Mechanics:** DFB agreed with the contents of the proposed course.

5. Introduction to Engineering/Program: DFB broadly agreed to layout and structure of the two courses. Since Departments with UG Program have to conduct 'Introduction to Program' alone in addition to 'Introduction to Engineering', the distribution of faculty teaching load for Introduction to Engineering may be allotted such that the load for the two Introduction courses is evenly distributed between Departments and Centres.

Non-graded Credits : Design/Practical Experience: The DFB had the following observations:-

- Students involved in entrepreneurial activity and incubation (startup) may be awarded extra design units
- The credits for 4 week and 8 week internship can be increased to 2 and 3 respectively. Higher units may be awarded depending on evaluation by a committee.

6. Transport Phenomena: DFB agreed to review Transport Phenomena course as given below:-

- The DFB felt that the number of lectures assigned to 'Conductive and Convective Fluxes' be changed to 2+6 from 1+7.
- Reference Books can be included in the course template.

7. Material Science (AML120):

The course contents may be modified by appending the following topics:

- Corrosion
- Selection of Materials



A.K. Saroha
(DFB Secretary)

All Faculty Members