

Curriculum Review – Students’ Feedback

Comments on proposed credit structure

1. For the first year basic sciences courses, the inclusion of biology as a course is welcomed by the students, but probably a 4-credit course might be excessive for that. Further, the course content must be carefully designed so that it does not render useless for the purpose of engineering students, i.e. the course should focus more of the field of genetic and biotechnology rather than the regular biology fields of interests.
2. On the proposal of making all the first year course common to all the departments, it was remarked that departments might want specific knowledge for students, for example a course like MAL 110 might not be completely useful to the students of Computer Science and Engineering. Therefore, if we are moving away from status quo, there should be advanced sciences courses in the 2nd year to provide specific knowledge.
3. Some members of the group also pointed out that the number of overlapping courses in similar departments should be minimized to allow smooth functioning of the courses, if possible these courses must be run together and also the bound on the number of credits in similar departments must be relaxed (for example BB5 students can only do 6 credits of SBS, SBS has many courses that are useful for BB5 students and there are no parallel courses in their curriculum).
4. Writing Skills- The course requires to be broken into two courses of 1 credit namely language skills and technical writing (as the two are largely different fields). For language skills we will need to divide the students on the basis of their English skills, students with weak English should be made to a basic English course and students with good English can be given an option between an advanced English course or any other foreign language (these courses can be done outside IIT as well in recognized training institutes). The technical writing skill course can be easily merged with the introductory course to engineering and the programme.
5. Course on Ethics- The students feel that 100 hours for this course is too much, the whole aim of this exercise is to reduce the burden on the students, while these course are surely reducing the classroom burden on the students but they are still keeping the student equally burden mentally hence defeating the whole purpose of this review. Also the underlying need and the desired effect of this course does not seem to be justified, as by this course we are trying to change something that cannot

be changed by lectures and classroom teaching. Also the ends that we are trying to achieve by this course can very well be achieved by a couple of session by NRCVEE and BSW.

6. Course on Communication Skills- In these courses it must be made mandatory for the student to present something on his/her own apart from other seminars / talks which they might have to attend.
7. Design Experience- The students strongly feel that internships at the end of third academic year must be kept compulsory as they help students to gain insightful experience in the real life scenario, also interns at Research Labs/Universities should be allowed as they serve the purpose of many students who wish to pursue their interests in the field of research. Allowing interns at research institutes will also ease the load on the TnP cell. Also 5 credits for the design component seem to be too less to promote the actual motive behind introducing the component at the first place. The students also believe that atleast 3 of the 5 credits under this component must be under the parent department of the student, for example- If a Civil engineering student works for the Baja team for 4 years, he will get all the 5 credits but would have done absolutely no work in his major field of study

Comments on Capability linked Opportunities (CLO's)

1. Applicable Criteria for students to avail the Registration Option for various CLOs
 - a. The present Concept Paper (as approved by the Senate) lays out two criteria for the students to be able to opt for capability linked opportunities right after the 1st academic year:

Criteria-1: Credits allowed per semester-26 (if following satisfied)

- 1st year Credit Requirements: 36
- CGPA $\geq$ 7.0

Criteria-2: Credits allowed per semester-24 (if following satisfied)

- Total Credits cleared after 'n' semesters: 20*n

- b. Students voiced a mixed opinion on the eligibility criteria: Some students felt this would lead to a discrimination b/w the 1st year students by pointing out that some of the 1st year students are not able to perform well academically due to adaptation issues (homesickness etc.). Students also suggested that the concept would be successful only if it provided freedom & flexibility to students in terms of ability to opt

for CLOs. Hence it was suggested that the criterion be revised & should include only the 'Minimum Credit Requirement' restriction.

However, the other opinion among the students suggested that the present curriculum has induced 'Under-Utilization' of students in academic terms & that the proposed criteria for eligibility to opt for CLOs be revised by raising the 'Minimum CGPA requirement' to 8.0. This would also help the students in their 2nd years in the following way:

- Incentivizing the grades in 1st year thus motivating the students to study
 - Meeting the Student Boards' Requirement of CGPA $\geq$ 7.0 for holding any elected posts at hostel/institute level.
 - Change of Department after 1st year.
- c. It was also suggested by some students that the 'Minimum CGPA Requirement' be removed as an eligibility criterion although it would lead to increased class sizes since most of the students would then opt for one or the other specializations available. However CGPA could then be used as a criterion to sort out the student registration applications for a particular Course to control the class sizes.
- d. As far as the implementation concept proposed by CRC is concerned, students commented that present restriction on maximum number of credits in case a student opts for a specialization be revised to include a tolerance of ± 1 so that students are able to exercise the same amount of flexibility while registering for a course from a set of courses which include both 3 & 4 credit courses. It was proposed that the restriction should be kept on the maximum number of lecture courses per semester in case the tolerance of 1 additional credit is taken into account during implementation.

2. Departmental Specializations

- a. Students opined that each department must offer at-least 1 or 2 specializations.
- b. The course structure as per the Concept Paper may be subject to revisions when it comes down to a particular department
- c. It was pointed out that the Course Structure may/may-not include a Project Course of 6-8 credits since a project is important in some departments while it is not with others.
- d. Students indicated that some departments do not offer mini-projects to

the students of their own department due to cases in the past where students have presented their Mini-Project work/ Course-Project work during their BTP/MTP presentations & thus taking credit for the same work twice.

- e. Therefore students desired that if at all the Project is made a mandatory requirement of the specialization, must be based on the application of theoretical knowledge acquired from multiple courses, which would present a fair picture of the student's performance during the same. This would also reduce the cases of fake presentations as mentioned above.
- f. Moreover it was suggested that the departments choose their own policy when it comes down to allowing a student to continue the core (BTP/MTP) project as the course project for departmental specialization & designing the credit basket for each specialization offered.

3. Minor/Inter-Disciplinary Area Specializations

- a. It was pointed out by students that the present number of departments offering a Minor Area Specialization is low & effort be made by Faculty Board of all Departments to provide such an option to students from other/sister departments after 1st year.
- b. Students also commented that the present protocol of the TnP Cell to 4th year students barring them from indicating completed/in-complete Minor Area Specializations in their CVs be lifted in order to foster effectiveness in the present concept of additional specializations.
- c. Students desired that the Minor Area Specializations & Inter-Disciplinary Specializations be kept different from each other.
- d. It was suggested by the students that Minor Area be kept specific to a department while Inter-Disciplinary areas be identified by pairing sister department as well as pairing departments based on Students' intent of working on novel projects which require knowledge of at-least 2 courses from different departments. For example: An Inter-Disciplinary specialization in Computer Science & Biotechnology since some CSE students have been working along DBBE students on common projects.
- e. Students desired that such Inter-Disciplinary specializations be kept open only to academically brilliant students after 1st year (say CGPA $\geq$ 8.0) as an incentive in recognition of the greater amount of hard work put in by them in their 1st year. This would essentially provide motivation to 1st year students to score high academically & be a part of the higher CGPA

class of students who get to enjoy these special benefits with an additional power to exercise a whole lot of flexibility while simultaneously adding value to their B. Tech degree.

- f. It was also brought to the notice that some departments have put down unnecessary pre-requisite requirements for the Courses offered under the Minor Area Specialization which has barred some students in opting for a Minor Area in that particular department. For Example- Pre-Requisite requirement of AML110 for a Minor in Mechanical Engineering although the concepts taught are same as those learnt in JEE-Physics.
- g. Also it was suggested that the Courses from independent departments with Content overlap be identified extensively so that students do not face problems while registering for Minor Area Courses. For Example- MEL140 overlaps with CHL121 in terms of content although it has not been mentioned anywhere in the 'Courses of Study' except by the Course Coordinator in a letter to the WIPRO office last semester upon Chemical Engg. Students' request to allow them to register for other courses which required it as a pre-requisite.
- h. The proposed structure of the Minor-Area Specialization was rated satisfactory by the students in terms of flexibility in choosing Core Courses.

4. General Discussion

- a. Students suggested that the effectiveness of providing Capability Linked Opportunities would ultimately depend upon an individual student's attitude with which he/she opts for the same which is largely determined by the kind of influence that his/her Seniors exercise over him/her.
- b. Therefore it is required of the senior undergraduates to guide the 1st year students properly with reference to ethics & not just with reference to weight of their CVs after each semester so as to provide them a fair picture of everything of interest when they face a situation whether it is related to academics or politics or a coupled problem.
- c. The Mentorship Review Committee should take steps in this direction by ensuring that they recruit the right mentors for the incoming students to help ensure that the 1st year undergraduate students are groomed with a positive frame of mind.

Comments on the examinations system

Either in current system, minor 2 examination can be made open book or allowing a certain number of hand written sheets in the examination.

Otherwise, a system where we have one minor and a major can be adopted, and we can have an additional evaluation component like a term paper or discussion groups of 4-5 students with the professors. Thereby a students understanding in the class can be judged.

In any case, the assignments should ideally be followed by a viva to check cases of cheating, and term paper submissions should be checked for plagiarism.