

Office of the Dean Academics

Minutes of the nineteenth meeting of Undergraduate Curriculum Implementation Committee

September 26, 2014

The nineteenth meeting of the Undergraduate Curriculum Implementation Committee (UCIC) was held in the Senate Room at 1600 hrs on September 24, 2014. The following members were present:

(Italics indicate inability to attend).

Prof. Anurag Sharma, Prof. Santanu Chaudhury, *Prof. S. R. Kale*, Prof. Sanjeev Sanghi, Dr. Atul Narang, *Prof. Shantanu Roy*, Dr. N. D. Kurur, *Prof. B. Bhattacharjee*, Prof. Anshul Kumar, Prof. S. D. Joshi, *Prof. Ambuj Sagar*, Dr. Seema Sharma, Prof. Amitabha Tripathi, *Prof. T.R. Sreekrishnan*, Prof. R. Chattopadhyay, Prof. D. Ravi Kumar, *Prof. Joby Joseph*, Dr. D. Sundar, Prof. A. S. Rathore, Dr. B.R. Chahar, Dr. Subodh Kumar, Prof. G. S. Visweswaran, *Dr. Sivanandan Sampath*, Prof. Sangeeta Kohli, Prof. P. Srivastava, *Prof. Manjeet Jassal*, *Prof. James Gomes*, Prof. M.R. Ravi.

The meeting started with a welcome to all members.

1. **Confirmation of minutes of meetings 18 dated March 25, 2014:** The minutes were confirmed as circulated.
2. **Credit structure of dual degree programmes in the new curricular framework:** In the existing curriculum, B.Tech. Programmes have 180 credits and M.Tech. programmes have 60 credits as graduation requirement. The Dual degree programme has 216-218, which is 22-24 credits fewer than the total credits of 180+60. In the new curriculum, the B.Tech programmes have 145-155 credits and M.Tech has 48-54 credits. After a long discussion, the committee recommended the following as minimum requirement for the dual degree programmes under new curriculum:

B.Tech. programme:	135-145 credits + 10 credits of Open Electives
B.Tech. with minor area / specialization:	135-145 credits + 20 credits of minor/specialization
Dual degree:	135-145 credits + 48 credits of M.Tech courses

This would apply both to students pursuing B.Tech. and M.Tech. in the same Department as well as those who apply for an M.Tech. in a different Academic Unit after B.Tech in another Department. The credit requirements may increase owing to pre-requisites or bridge courses, depending on the requirements of an M.Tech. programme, and this should be decided by the Academic Unit offering the M.Tech. programme.

3. **Minor areas, Departmental / Interdisciplinary specializations offered by various academic units:** Some Departments had defined the Departmental Specializations as part of the programme structures approved by the Senate:
 - Civil Engineering – 5 areas
 - Computer Science and Engineering: – 6 areas
 - Electrical Engineering: – 10 areas
 - Engineering Physics: – 2 areas
 - Textile Technology – 2 areasNo new proposals besides the above have been received for Departmental Specializations. The following Academic Units have proposed Minor areas:
 - Physics: 2 Minor Areas: Photonics Technology and Nanoscience and Technology. (already approved by the Senate; strengths not specified)
 - Applied Mechanics: 2 Minor Areas: Computational Mechanics and Materials Engineering, each with a capacity of 20 students per year.
 - Centre for Atmospheric Sciences: 1 Minor Area: Atmospheric Science, but has not specified the strength of students that can be accommodated.
 - Computer Science and Engineering: 1 Minor Area: Computer Science with a capacity of 20 students per year.

- Kusuma School of Biological Sciences: 1 Minor Area: Biological Sciences with a capacity of 50 students per year (25 students per semester).

The following proposals were received for Interdisciplinary Specializations:

- Interdisciplinary Group on Robotics: 1 Interdisciplinary Specialization in Robotics (same proposal that was approved by the Senate along with the Interdisciplinary Programme in Robotics).
- Interdisciplinary Group on Biodesign: 1 Interdisciplinary Specialization in Biodesign.

All the Minor Areas and Interdisciplinary Specializations listed above (also placed in the link <http://web.iitd.ac.in/~ravimr/curriculum/ucic/senate-190/minor-areas.html> and <http://web.iitd.ac.in/~ravimr/curriculum/ucic/senate-190/interdisciplinary-specializations.html>) were discussed by the UCIC. While the other proposals were recommended to be forwarded to Departments / Centres / Schools for comments, the committee expressed view that the Interdisciplinary Specialization on Biodesign appears to be a collection of courses with no clear theme. It was decided to convey this feedback to Prof. P.V.M. Rao who had forwarded this proposal on behalf of the interdisciplinary group. It was also recommended that all such groups that propose Interdisciplinary Specializations should be formally recognized and a formally appointed Convener should be responsible to ensure availability of the courses for those students who opt for these specializations.

4. **Elective courses from various Departments:** Elective courses from Departments other than Chemical Engineering, Electrical Engineering and Mechanical Engineering have already been approved by the Senate. Electives from Chemical Engineering and Electrical Engineering Departments have been received and were discussed. (The templates of the courses are placed in the link <http://web.iitd.ac.in/~ravimr/curriculum/ucic/senate-190/elective-templates.html>). It was decided to have a special meeting of the UCIC, possibly during the Minor Tests-2, to scrutinize the templates closely. It was also decided that the templates be circulated to Departments / Centres / Schools for their comments in the meantime.
5. **Implementation of non-graded component on Design:** It was observed that a detailed discussion on this item was held in the meeting 18 of UCIC and detailed minutes were prepared. A note conveying the recommendations was also forwarded to Academic Units for their action in April 2014. However, no action has so far been communicated by any Department. In view of this, the committee decided the following immediate measures:
 - a) All Departments offering Undergraduate programmes should float two courses, one called Summer Internship (2 Design units) and another called Semester Internship (5 Design units) which can facilitate the optional Internship that the students can use to earn non-graded units in Design.
 - b) All Departments / Centres / Schools should float a course called Minor Design Project (2 Design Units) to facilitate students to carry out projects involving Design activity with the faculty of that Academic Unit.
 - c) All Departments offering Undergraduate programmes may optionally float a Design Innovation course of the kind that was a core course in the previous curriculum, which may involve some graded credits and some non-graded units: for example, 1-0-4; (1 credit, 1 design unit).

Besides these, faculty members of all Academic Units should be encouraged to offer optional Design Projects for interested students as part of the regular credit courses.

Operational issues on evaluating students for award of design units was discussed. The committee recommended that in view of the large number of expected design projects, it would be most appropriate to leave the evaluation to the faculty facilitating the design activity. In case of students working on co-curricular activities with Design content, the faculty facilitator may appoint a committee to evaluate the Design efforts of these students and award Design units. Unlike graded courses where the credits are fixed and the letter grade determines the performance of a student, in non-graded courses, the number of units to be awarded is recommended by the evaluator, commensurate with the efforts of the student.

As a matter arising, it was suggested that the course template at present does not allow for specifying non-graded units, and needs to be modified to account for the same.

6. **Any other item with the permission of the chair: Implementation of the non-graded component on Communications Skills:** The Senate-Approved Concept Paper proposed the following about this non-graded component:

“Communication skills is an essential requirement for a modern engineer. CRC proposes to allocate 2 units for exercises in communication skill. Instead of colloquium, CRC proposes that departments introduce a set of topic specific seminar courses for students (for example EEN401 – Seminar on Embedded Systems – 1 unit). These courses will be elective, offered in each semester. These seminar sessions will be held for two hours per week. Multiple such courses can run in parallel. These seminars will also be open for all. These seminars can be scheduled outside office hours. Students need to register for at least one such course in his / her parent department for earning one unit.

Further, students can earn remaining one unit through any one of the following means:

- a) By successfully undergoing Communication Skill course/workshop as an activity approved by DUGS*
- b) By documentary evidence of excellence in debating and/or writing as certified by faculty in-charge of these activities.*
- c) By participating in course seminars of regular courses; for example regular L courses can have optional seminar component (e.g. EEL707 Multimedia Systems can have optional seminar component 1 unit).*
- d) Registering and completing an additional seminar course offered by any department or centre.*

A student will be required to earn these credits in the 3rd and/or 4th year.”

On the basis of this, it was decided to request all Departments/ Centres/ Schools to float courses pertaining to topic-specific seminar series. It was also decided to write to all faculty to include an optional seminar component in regular courses wherever possible.

The meeting ended with thanks to the chair.

Comments, if any, may kindly be sent to the undersigned by 1.10.2014.

M.R. Ravi
Associate Dean Academic (Curriculum)
and Convener, UCIC