

## Office of the Dean Academics

### Minutes of the Seventh meeting of Undergraduate Curriculum Implementation Committee

February 17, 2013

The sixth meeting of the Undergraduate Curriculum Implementation Committee (UCIC) was held in the Senate room at 1600 hrs on February 15, 2013. 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, Dr. Shantanu Roy, Dr. N. D. Kurur, *Prof. B. Bhattacharjee*, Prof. Anshul Kumar, *Prof. S. D. Joshi*, Prof. Ambuj Sagar, *Dr. Seema Sharma*, Dr. S. Dharamraja, *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. N. Chatterjee, Prof. Sangeeta Kohli, Prof. P. Srivastava, Prof. Manjeet Jassal, *Prof. James Gomes*, Prof. M.R. Ravi. Prof. B.S. Panda from Mathematics also attended. Prof. P.V.M. Rao attended as an invitee and convener of the subcommittee on Introduction to Engineering and Programme and Design components of non-graded credits.

The meeting started with a welcome to all members.

1. Minutes of the previous meeting dated February 5, 2013 were discussed. Dr. Subodh Kumar pointed out that he was absent in the last meeting while the minutes reported him as present. With this correction the minutes were confirmed.

A few matters arising from the minutes were raised by members from Mathematics Department and were discussed. The following were clarified:

- a) Since Mathematics I contains topics such as multivariate calculus which form a pre-requisite for partial differential equations covered in Mathematics II, it is preferable to teach these courses in sequence. This would need logistics for teaching all 851 students Mathematics I in first semester and Mathematics II in second to be worked out and norms set in place for a common examination system where the team of teachers and course coordinator worked together. The chairman assured that these details would be worked out separately, and subsequently the decision on how Mathematics I / II courses would be scheduled can be confirmed.
  - b) Members from Mathematics Department clarified that the book by Kreiszig is not quite suitable for Mathematics I course, and that is why it is not included in that course. In Mathematics II however this book is listed in the course template as a text / reference book.
  - c) The chairman also clarified queries of Mathematics faculty regarding the conduct of tutorials in the new framework.
  - d) It was also clarified that the course numbering in the new curriculum needs to be discussed in future, as the numbers of new courses need to be distinct from the existing ones for clarity. As of now the Departments were asked to put some tentative course numbers on the templates they forwarded to UCIC and senate.
2. Prof. PVM Rao made a presentation on the recommendations of the subcommittee on Introduction to Engineering and Programme and Design / Practical Experience. The recommendations were discussed by the members. The members expressed their appreciation for the good work done by the subcommittee. The recommendations of the subcommittee were accepted by UCIC without modifications. The presentation is in Annexure A, and the documents are on UCIC website.
  3. Templates of first year courses floated by Mechanical Engineering were not received yet, so this item was deferred to a later meeting.
  4. Two components of non-graded credits, viz., Language and Writing Skills; Communication Skills and Seminar. While the former is being taken care of the language labs and instructors with guidance from HuSS faculty, the latter needs discussion on implementation strategy of the suggestions made in the concept paper. The UCIC decided to authorize the Chairman to constitute a subcommittee to look into this matter.

The meeting ended with thanks to all the members.

Comments on the above minutes should be sent to the undersigned by 25.2.2013.

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

## Annexure -A

### Introduction to the Engineering & Programme & Design/Practical Experience

Following Committee was constituted by Dean (Academics) to recommend the modalities for implementation, administration and evaluation of non-graded credit to be earned under **Introduction to Engineering & Program** and **Design/User Experience**.

Pankaj Srivastava  
Ambuj Sagar  
Shantanu Roy  
Anshul Kumar  
S. R. Kale  
B. Bhattacharjee  
S. Joshi  
Kushal Sen  
Santanu Chaudhury  
P. V. Madhusudhan Rao

#### Course: Introduction to the Engineering & Programme

- The course falls under *non grade core requirement*
- The course will be of two units
- Student's involvement will not be more than two hours per week.
- The course spans over two semesters
  - Introduction to Engineering (First Semester)
  - Introduction to Programme (Second Semester)

#### Course: Introduction to the Engineering & Programme

- This is a flagship course for all students entering the institute.
- Identifying faculty who would be involved in running this course for first three years is crucial.
- Faculty from across the departments/centers in sufficient numbers have to associated for realizing the objectives of this course.
- Teaching load for faculty teaching this course should be given adequate weightage (2-0-0)
- Adequate planning during summer is necessary for running this course for the first time.

**Objectives**

- Exposing students “Engineering” as a profession which creates wealth for nations, and is a vehicle for social & economic growth.
- Provide exposure to various disciplines of science & engineering and their interconnectedness.
- Excite students how research in science/engineering has enormous impact our day to day lives.
- Enlighten students various career options available to them.
- Make students aware of what it means to engineer a product.
- Excite students by bringing in potential role models and accomplished alumni in engineering profession.
- Motivate students to take up co-curricular activities on their own during their remaining period of stay in the institute.

**Implementation Plan (First Semester)**

- Lecture by an industrialist/designer/accomplished engineer about an exciting product of multi-disciplinary nature.
- Small modules of presentations by course faculty about the same product to provide more insight and interconnectedness. of science/various discipline of engineering/ humanities etc.
- Break-out sessions on same product among student faculty groups
- Lectures from successful industrialists & entrepreneurs about their journey.
- Lecture by an institute faculty on one of the on-going cutting-edge-research being carried out in the institute and its impact.
- Lecture by an institute faculty on one of the products/ innovations which has reached people and has made an impact.
- Visit to an Industry/on-going science/engineering exhibition.

**Implementation Plan (Second Semester)**

- Hands-on exercises including Product Dissection Exercises in Smaller Groups (2 Classes)
- Conducting one design & innovation contest (Equivalent to 2 Classes)
- Screening of a movie/video pertaining to specialization with a preamble and post screening discussions. (2 classes).
- Visit to 2-3 important laboratories and demos(1 class).
- Lecture on “possible career options” by an accomplished alumni of the department (1 class)
- Do-it-yourself exercises either individually or in groups (2 classes)

**Implementation Plan (Second Semester) ....contd**

- Lecture by a professional and accomplished engineer who is also great orator and a possible role model for students. (1 class).
- Lecture by an institute faculty on one of the on-going cutting-edge-research being carried out in the institute and its impact. (1 class).
- Lecture by an institute faculty on one of the products/innovations which has reached people and made a large scale impact. (1 class).

**Faculty Required**

Departments having UG programmes to depute one faculty member & one teaching assistant for every 50 students.

+

Every major department/center not having UG programmes to depute at least one faculty.

**Evaluation**

S or Z Grade based on evaluation by faculty

**Course: Design/Practical Experience**

- The course falls under *non grade core requirement*
- The course will be of five units

**Objective**

- to give opportunities to students to learn in an informal setting and also during vacations.
- to ensure every student graduates after acquiring some design/practical experience preferably through multiple activities.

| Activity                                                             | No of Design/Practical Experience Units                                                          | Criteria for awarding Units                                    | Maximum Units which can be earned |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------|-----------------------------------|
| Course with design focus (which has significant design component)    | Designated with no of design units which course will carry (in courses of study)                 | Successful completion of the course                            | 2                                 |
| Course with optional design/practical experience component           | Optional design units which can be earned need to be specified at the time of floating of course | Successful completion of design/practical experience component | 2                                 |
| 4-week internship during winter/summer                               | 1                                                                                                | Evaluation by faculty supervisor/internship supervisor         | 1                                 |
| 8-week internship during summer                                      | 2                                                                                                | Evaluation by faculty supervisor/internship supervisor         | 2                                 |
| One semester industrial internship                                   | 5                                                                                                | Evaluation by faculty supervisor/internship supervisor         | 5                                 |
| Participation in Design/projects with faculty/Innovation Center/CAIC | 1 or 2                                                                                           | Evaluation by faculty mentor/ Coordinator Innovation Center    | 2                                 |