

**Innovations**  
**In**  
**Teaching & Learning**

**NEW HORIZON COLLEGE OF ENGINEERING, BANGALORE**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION**  
**ENGINEERING**

**Innovations in Teaching and Learning**

**Defining Innovation in Teaching and Learning**

- The term “Innovation” in teaching and learning is intrinsically quite broad in perspective and there are a number of views on how to define it.
- “Any teaching strategy, approach, technique, or tool can qualify to be termed as an innovation if it is used, or used in a new way, to produce quantifiable gain for student outcomes or the student experience, and can be implemented widely”
- Many of such innovative initiatives taken by faculty and staff of the department can be observed in the Course Files, Laboratory Manuals and other documents that are maintained in the department.

**Statement of goals for innovations in teaching and learning**

Realizing the necessity of innovative ideas in the teaching-learning process, and their subsequent implementation through quantifiable initiatives, the following goals have been set:

Apart from the standard teaching-learning experience imparted in classrooms, the department will continuously strive to:

- Enrich the learning experience of students through innovative tools and techniques
- Enhance the understanding and knowledge of students with innovative tools and techniques
- Broaden the perspective of students in matters pertaining to academic, contemporary as well as social issues using innovative tools and techniques

- Motivate the students to think, formulate and act innovatively themselves.
- To Experiment new methods and strategies with the objectives of improvement in student engagement, motivation and attainment of course outcomes.

### **List of innovative initiatives in teaching and learning process taken by the Department**

Innovation is literally done by each dedicated faculty, knowingly or unknowingly; literally every single working day of his/her career. Some initiatives may be so small to escape attention, and might be difficult to quantify and record; but may affect the learning of students in a subtle but important way. On the other hand, some initiatives might be so impactful so as to be clearly visible as making huge strides in improving the teaching-learning process.

Given below is a listing of some of the noticeable initiatives taken by the faculty of the department. However, it should not be construed as a conclusive list; but as a part of an open ended process of continuous improvement.



**1. DSpace submissions:** Faculty of the department regularly upload a lot of academically relevant documents on the DSpace repository of NHCE. The portal is directly accessible from the institutional website. The submissions include power point presentations, articles, lecture notes, lab manuals and many other useful documents that are beneficial for the students.

**Link :** <http://202.62.95.70:8080/jspui/>

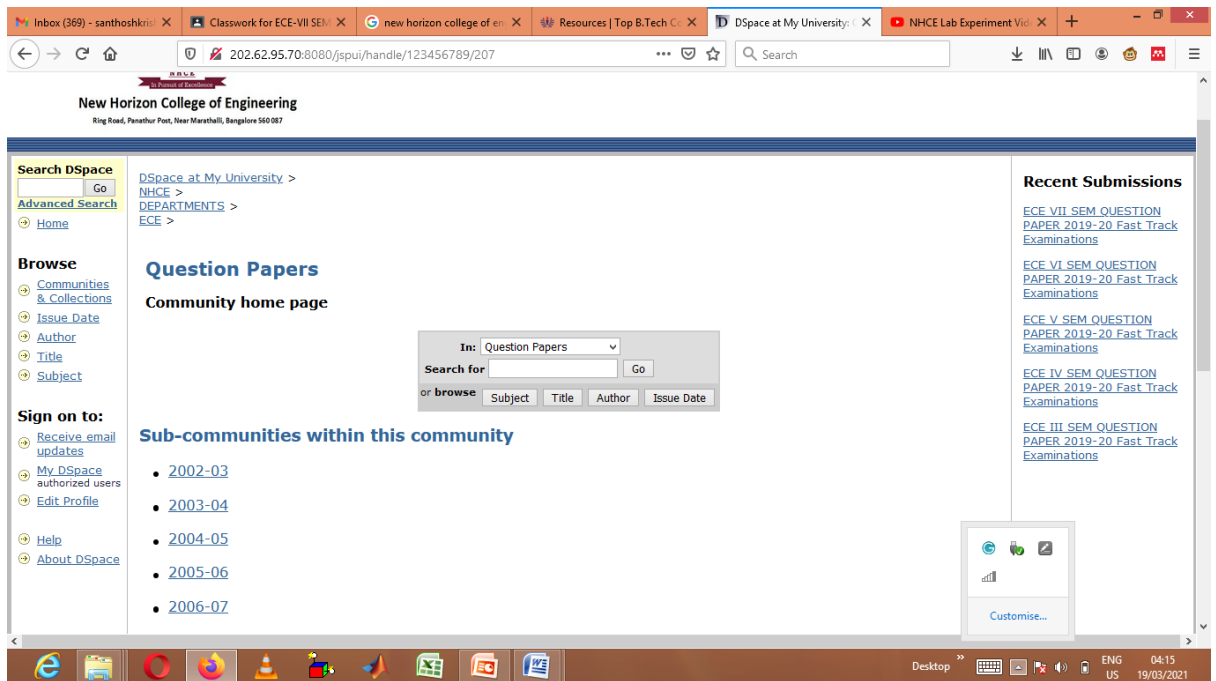


Fig : Screenshot –Dspace

**2. Club/Professional Societies activities:** There are 3 clubs that are currently being run by ECE

**Club activities:**

Technology Sharing Club (TSC)-

<https://newhorizonindia.edu/co-curricular/techsharing/>

Electronics Hobby Club (EHC) –

<https://newhorizonindia.edu/co-curricular/electronicshobby/>

Professional Connect Club (PCC)

<https://newhorizonindia.edu/co-curricular/professionalconnect/>

Various club activities in these clubs act as excellent grounds for innovative learning. In these clubs, the faculty are not the only disseminators of knowledge; senior students (older club members) pass on their knowledge and learning to the younger generation (new

club entrants) via a continuous ritual-like process, which includes hands-on training, presentations, lectures, group discussions and many other innovative procedures. These clubs with their club activities literally act as the most fertile grounds for innovations in the teaching-learning process. Additionally, professional societies such as IEEE,ISTE,IEI,MTS regularly organises various activities.

**3. Online Lab Videos :** In order to facilitate the students to learn laboratories virtually, Lab videos are uploaded in youtube .

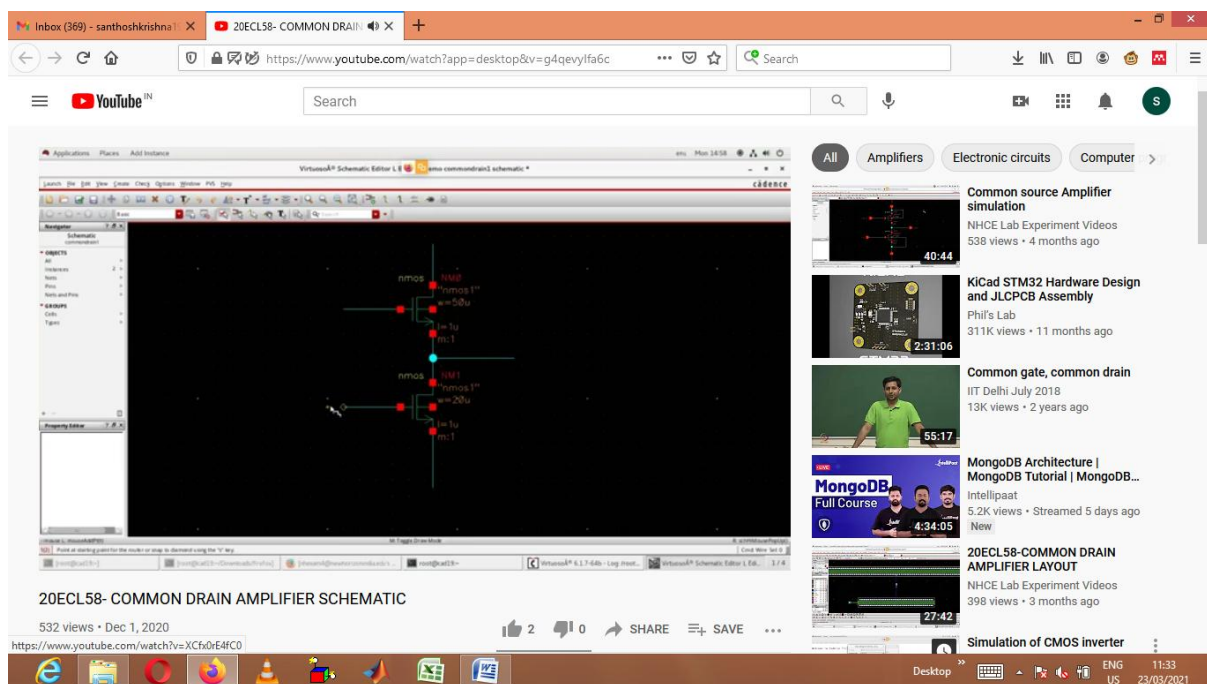


Fig: Screenshot of Virtual lab session from youtube

Link:

<https://www.youtube.com/watch?v=g4qevyIfa6c>

**4.MOOCs/ EDUSAT PROGRAMS:** Students are motivated engage themselves in self learning and are motivated towards lifelong learning. This helps them to enrich their knowledge on current trends and also to equip themselves with inter-domain expertise. Few

professional elective courses are identified and the faculty members/coordinator encourage the students to undergo the online courses from the sources like NPTEL, SWAYAM, Coursera, etc.. These courses provide quizzes, weekly exercises, peer-graded assignments. 10% of CIE marks shall be considered for the identified courses based on the students score in the online assignments/quiz

NHCE is the nodal centre for IIRS-ISRO Outreach Programme that focusses on strengthening the academia and user segment in space technology and its application using online learning platforms. The students interested in satellite programmes are motivated to take up the courses with the assistance of faculty mentors.

**5. Miniature scale models:** In many relevant subjects, faculty encourage the students to make miniature working models (mini projects) . Thus enhancing interest and level of learning.



Fig : Mini Projects

6. **Audio-visual learning (ICT):** In many subjects (wherever necessary) audio-visual aids are used. It is a proved fact that audio-visual presentations in the classrooms are more effective in capturing the attention of students.

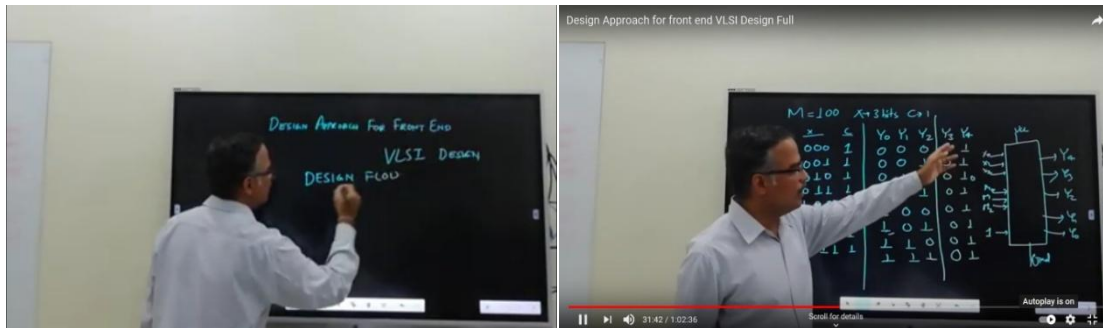
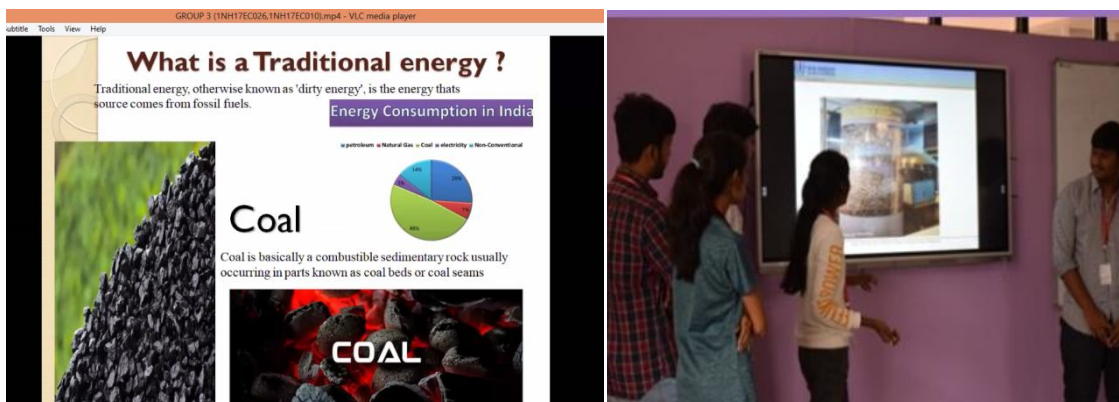


Fig : Usage of smart board

Link : <https://www.youtube.com/watch?v=a4VSZ-65EOY>

7. **Student presentations:** In many relevant subjects, students deliver presentations to the rest of their classmates. This significantly boosts students' confidence and their learning experience.

Self study sample video link :



[https://drive.google.com/drive/folders/1c3jsg\\_ShduJtoatwo907OWMeWBs1u8zF?usp=sharing](https://drive.google.com/drive/folders/1c3jsg_ShduJtoatwo907OWMeWBs1u8zF?usp=sharing)



**8. Google Classroom:** Faculty have also created their own Google sites wherein they upload study material relevant to their own subjects. The links are shared with the students and the contents are openly accessed by all students.

Sample :

<https://classroom.google.com/u/0/w/MTM4OTIyMTQ5MTQ4/t/all>

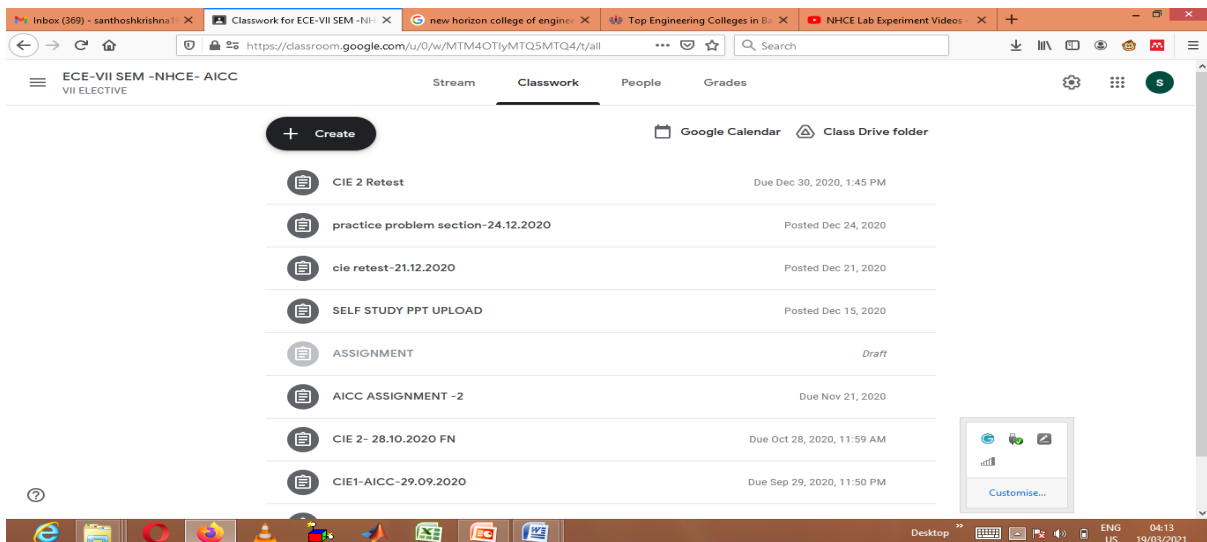


Fig : Usage of Google classroom