

## Minutes of Meeting

**Agenda:** Finalization of the subjects offered by Chemical Engineering Department

**Date and Timing:** June, 27, 2023, 3:30 PM to 5:30 PM

**Venue:** Hybrid Mode (online and HoD Office Chemical Engineering Department)

BOS meeting was scheduled on 27 June 2023 in hybrid mode at 3:30 pm onwards in the HOD office in Chemical Engineering Department. Meeting was conducted in presence of all the BOS member including External expert (Academic and Industrial), Internal expert (Department faculties), Alumni, Student and Parent representative to improve the syllabus of all the subjects offered by Chemical Engineering Departments for the entrants of 2022-23 by incorporating the latest advancements and industry trends in the field of Chemical Engineering topics to strengthen the educational program in the proposed syllabus. Following topics were covered in meeting

- Course Structure and Syllabus of B.Tech, Chemical Engineering for entrants of 2022-23
- Course Structure all the courses offered by Chemical Engineering Department to the Technology branches of SoCT
- Syllabus of 1<sup>st</sup> Year student in NCT 101/102- Introduction to Chemical Engineering and Technology
- Course Structure and Syllabus of M.Tech, Chemical Engineering for entrants of 2023-24
- Syllabus of Research Methodology in PhD Program

Following modifications have been proposed in the meeting:

- Modifications in the course outcomes and CO-PO mapping based on the gap analysis
- Following new subjects have been introduced in the curriculum of B. Tech. Chemical Engineering program
  1. NCH 407 Pipeline Transportation of Oil and Gas
  2. NCH 419 Green Chemistry
  3. NCH 421 Microchemical Systems
  4. NCH 404 Environmental Impact Assessment
  5. NCH 408 Energy Management
- The students will have a flexibility to choose courses from MOOC platform (NPTEL/Swayam/etc.) in place of any of the program elective. The list of such MOOC courses will be prepared and approved by the Department based on the suggestions by faculty, students and other stakeholders.
- The structure have been modified considering the new education policy NEP2020.
- Following Modifications have been incorporated in the structure of M. Tech. Chemical Engineering program:
  - i. Industrial training/Minor Project has been added in the summer break between 2<sup>nd</sup> and 3<sup>rd</sup> semester. The grading of the Industrial training with 2 credits is added in the 3<sup>rd</sup> Semester.
  - ii. Only two program electives in first two semesters in place of three program electives in first three semesters.
  - iii. The course Modelling and Simulation of Chemical Processes has been shifted from 3<sup>rd</sup> Semester to 2<sup>nd</sup> Semester.
  - iv. The course optimization of Chemical Processes has been shifted from 2<sup>nd</sup> Semester to 1<sup>st</sup> Semester.
  - v. Advanced Mathematical Methods in Chemical Engineering has been shifted from core course to elective course
  - vi. An Program Elective "Artificial Intelligence in Chemical Engineering" is added in the elective course

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- vii. The program elective Nano-Techanology is renamed to Nanomaterials in Science & Engineering
- viii. Following courses have been removed from the list of program electives:
  - a. Solar Thermal Energy Storage
  - b. Natural Gas Engineering
  - c. Principles of Polymer Engineering
  - d. Advanced Process Control
  - e. Advanced Petroleum Refining
- The course code of Fluid Mechanics and Mechanical Operations to be taught to Chemical Technology branches will be NCH 201

All the BOS members had actively participated and have given their valuable suggestion/recommendation. The suggestion/recommendation along with the response/action taken are given as follows

	Suggestions/recommendations	Action Taken/Response
1	Number of electives should be reduced or some specific subjects which have almost similar syllabus content should be merged to single subject	1. The course Non-conventional Energy has been removed and the contents have been incorporated in NCH 405 Energy resource and energy conservation 2. The course City Gas Distribution has been removed and the contents have been incorporated in NCH 407 Pipeline Transportation of Oil and Gas
2	Software like COMSOL/ASPEN/HTRI were recommended for lab associated subjects such as Process Modelling Simulation (NCH-306) and Computer Aided Equipment Design (NCH-301)	The department will move the proposal for the purchase of these software to the authorities based on the recommendations of the BoS members
3	To enhance the experiential learning and student creativity, the students can be given an opportunity to take a project with a faculty supervisor. This project will run in 3 subsequent semesters (till 6 <sup>th</sup> Semester). The student will earn 1 Credit in every semester. The grading of this 3 credit flexible project course is proposed to be given by a panel in the 7 <sup>th</sup> Semester in place of one of the Program Elective course	The proposal will be send to the Academic Council of HBTU. If accepted it will be implemented.
4	There should be a minimum number of students to run a program elective.	Minimum 10 students should opt to run a program elective.
5	Course name of Nanotechnology (NCH-411) should be changed	Principles of Nanoscience and Nanomaterials
6	Open Elective Course: "Process Utility" may be changed to "Process Utilities"	The comment has been incorporated in the revised syllabus

*Handwritten signatures and notes:*  
 InCh, An, B. Paul, Anir, Student: Aryanish Somakara

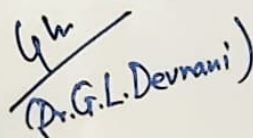


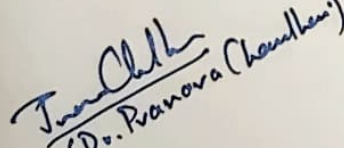
7	Course Code: NCH 314 "Statistical Design of Experiments" may be changed to simply "Design of Experiments"	The comment has been incorporated in the revised syllabus
8	Course Code: NCH 413 "Bio-system Process" may be changed to "Bioprocess Engineering".	The comment has been incorporated in the revised syllabus
9	It is recommended by BOS member to include scientific communication Research Methodology in Research Methodology course for Ph.D. students	The comment has been incorporated in the revised syllabus
10	The format of the text books/reference books should be in uniform format	The comment has been incorporated in the revised syllabus

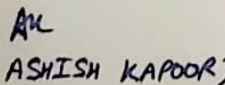
### Attendees

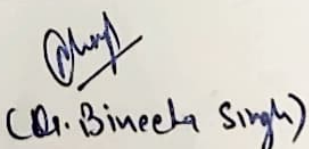
S. No	Name	Signature
1	Chairman (HoD)	Prof Ashish Kapoor
2	Academic Council Nominee	Prof. Dhananjay Singh (IET Lucknow) (Approval by E-Mail)
3		Prof. Jitendra Sangwai (IIT Madras) (Approval by E-Mail)
4	Vice Chancellor Nominee	Prof. Vimal Katiyar (IIT Guwahati) (Approval by E-Mail)
5	Representative from Industry	Mr. D. K. Shukla (Approval by E-Mail)
6	Post Graduate Meritorious Aluminous	Prof. P. K Bajpai (Approval by E-Mail)

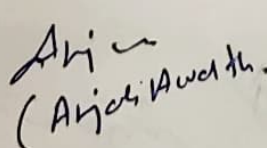
### Faculty Members

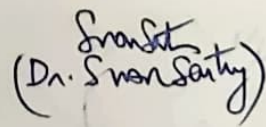
  
 (Dr. G.L. Devnani)

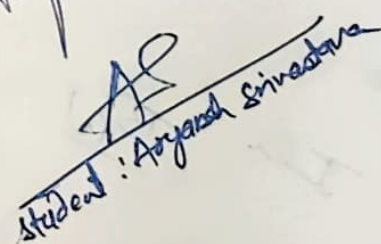
  
 (Dr. Pranava Chaudhary)

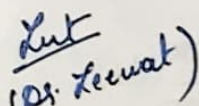
  
 (ASHISH KAPOOR)

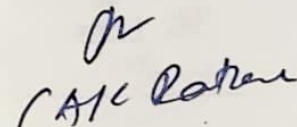
  
 (Dr. Bineeta Singh)

  
 (Arjun Awasthi)

  
 (Dr. Swarn Sastry)

  
 Student: Arjun Sinastava

  
 (Dr. Kewat)

  
 (AIC Patna)