**COEP TECHNOLOGICAL UNIVERSITY (COEP Tech)**

A Unitary Public University of Government of Maharashtra

(Formerly College of Engineering Pune (COEP))

# School of Computational Sciences

# Minutes of the School Council Meeting

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**Date and Time:** April 27, 2024, Saturday

**Time:** 10:00 AM to 2:00 PM

**Venue:** Online Mode Via Microsoft Team

The 2nd School Council Meeting of the School of Computational Sciences was conducted on Saturday, 27th April 2024 in online mode and the following members were invited for the same:

## Members of School Council:

- Dr. Vahida Attar, Dean of School of CS(**Chairperson)**
- Dr. P. K. Deshmukh(HOD) COEP Tech University
- Dr. Mrs. N. V. Shinde(HOD) COEP Tech University
- Mr. P. S. Revankar COEP Tech University
- Dr. K. V. Dalvi COEP Tech University
- Dr. Ajit Rajwade IITB , Mumbai
- Dr. Chandrasheel Bhagwat IISER, Pune
- Dr. Puneet Bakshi C-DAC, Pune
- Mr. Ravindra Naik TCS Research, Pune
- Dr. Adity Kanade Microsoft Research India
- Dr. Sujay Phadke Persistent Systems
- Mr. Vinay Kakade Co-founder @Abhyasu.com

The meeting was chaired by Dr. Vahida Attar, the Dean, School of CS. The faculty of CS worked incessantly in the implementation of the syllabus in line with NEP for all the courses offered from the school for the Academic Year 23-24. Dr. Pradeep Deshmukh, Head of Department of Computer Science and Engineering, Dr. N.V. Shinde, Head, Department of Mathematics. The meeting was attended by the faculty members of CSE and Mathematics.
Following members requested for leave of absence.

- Dr. Adity Kanade Microsoft Research India
- Dr. Sujay Phadke Persistent Systems
- Mr. Vinay Kakade Co-founder @Abhyasu.com

## Points Discussed in the Meeting:

1. Dr. Vahida initiated the meeting and welcomed all the members of the School Council with warm greetings. She traced the journey of introducing NEP complaint syllabus for the Academic Year 23-24 for FYBTech. She presented the rationale for theschool council meeting and informed all members about the agenda at hand. She then handed it over to Pradeep Deshmukh sir for further departmental course structure presentations.

2. Dr. Pradeep Deshmukh presented the credit matrix from FY B.Tech to Final B.Tech Year, encompassing all courses offered by the School of CS. He also presented the structure for SY B.Tech Regular and Lateral entries, detailing the core courses, humanities and social science, management courses, open elective courses, Multidisciplinary Minors and vocational and skill development course.

**Computer Science and Engineering Syllabi presentations were conducted by following faculty members:**

- Microprocessors by Mr. Revenkar
- Theory of Computation by Ms. Jibi
- Data Structures and Algorithms by Mr. Khushal
- Open Elective-Data Analytics by Ms. Patil
- Multidisciplinary Minor-Internet Technologies by Mr. Khdase
- Object-Oriented Programming & Design by Ms. Trishna
- Computer Organization by Mr. Revenkar
- Principles of Programming Languages by Mr. Khushal
- Open Elective-2 Fundamentals of Operating System by Dr. Deshmukh
- Fundamental of Algorithms by Ms. Haribhakta
- Development Tools Laboratory and Minor2-Data Structures and Algorithms by Mr. Khushal
- MTech (CE, IS, DS, CS) program structures by Mr. Mane

3. **Dr. Neeta Shinde presented the following courses during the meeting:**

(A) Mathematics course for direct second-year students (3 credits)

(B) Open Electives (2 credits each)

a. OE1 (Sem-III) : Linear Algebra (Except Computer)
b. OE1 (Sem-III): Statistics with R (Except Computer)
c. OE2 (Sem-IV): Numerical Methods (Except Mechanical and Electrical)
d. OE2 (Sem-IV): Complex Analysis (All)

(C) Multidisciplinary Minor in Financial Engineering (14 credits)

- MDMI (Sem III): Introduction to Financial Instruments (2 credits)
- MDMI (Sem IV): Numerical Methods in Finance (3 credits)
- MDMI (Sem V): Financial Derivatives and Structuring (3 credits)
- MDMI (Sem VI): Trading Platform and Global Markets (3 credits)

- MDMI (Sem VII): Design of Financial Markets System (3 credits)

**Experts provided feedback and suggestions for improvements are as follows:**

- The syllabus for the Mathematics course for direct second-year students is commendable.
- Computational mathematics along with some software must be part of cubiculum.
- It is recommended to use MATLAB or R software for Multidisciplinary Minor in Financial Engineering as Excel has limitations.
- The syllabus of Multidisciplinary Minor in Financial Engineering is well-structured and appreciated
- Prerequisites are essential for students opting for OE complex analysis.
- **Dr. Chandrasheel Bhagwat suggested scheduling a separate meeting of the Math faculty.**
- To check for courses of open elective and vertical of MDM for common courses, common content and update.
- Any pre-requisite required for OE and MDM courses.
- The evaluation of courses like Web technology, Data Analytics should not be giving theory examination. Dept to decide on model of evaluation for such courses like giving assignments, Mini project, etc.
- For the OE course of Foundation of Algorithms, to introduce to students the concept of NP hard and complete problems. Also, to decide for any pre-requisite required for the course.
- Linear Algebra Subject Enhancement:
    - Introduce hands-on exercises in the linear algebra curriculum to emphasize practical application in computational science.
- Theory of Computation (ToC) Update:
    - Incorporate the basics of language theory in ToC to provide students with a comprehensive understanding.
    - Include context-switching languages to expose students to modern computing paradigms.
- Data Structures and Algorithms (DSA) Revision:
    - Integrate the concept of Big Theta notation into the DSA curriculum to help students analyze the time complexity of algorithms effectively.
    - Add a self-study unit on KD trees to explore advanced data structures independently.
- Programming Paradigms and Languages (PPL) Enhancement:
    - Clearly define the languages and applications covered in the PPL curriculum to align with industry demands and emerging technologies.

- Data Analytics (DA) Open Elective Expansion:
    - Expand the open elective in Data Analytics to include mathematics, probability, and statistics to provide a strong foundation in data analysis.
    - Introduce a module on data preprocessing techniques to equip students with essential skills for handling real-world datasets effectively.

- Data Structures and Algorithms (DSA) Minor Update:
    - Enhance the DSA minor by including additional modules covering different aspects of algorithms to provide a more comprehensive understanding.

Dr. Vahida Attar expressed a deep sense of gratitude to all the members of School Council for their scholarly suggestions. She thanked all the faculty colleagues of Computational sciences for their cooperation and diligent efforts to make the curriculum NEP oriented in considerably short duration of time.

The meeting concluded with the vote of thanks.