Innovations by the Faculty in Teaching and Learning

The Department of Computer Science & Engineering places a strong emphasis on integrating innovative approaches into the teaching and learning process. Each classroom is equipped with a projector, blackboard, and whiteboard, enabling diverse instructional methods. Faculty utilize projectors for video lectures and online expert talks, while smart boards, available in most classrooms, further enhance the learning experience.

List of Innovative methodologies in learning process

S.No.	Type of Learning	Description
1	Project-based learning	Project-Based Learning (PBL) is an innovative teaching method that immerses students in real-world problem-solving and project development over an extended period. By fostering critical thinking, problem-solving, and collaboration, PBL equips students with essential skills for academic and professional success. Each semester, students undertake projects aligned with their coursework, which are assessed using detailed rubrics. The semester concludes with an Open Day, where students present their work through Project Exhibitions. These events showcase their ability to apply theoretical knowledge to practical, real-world challenges.
2	Role Play	Role-Play Based Learning is an interactive teaching approach where learners assume specific roles in simulated scenarios, fostering active engagement, critical thinking, and problem-solving. It helps students explore real-world challenges, develop empathy, and enhance communication skills through experiential learning.
3	Blended learning	Blended learning integrates traditional in-class instruction with online learning, offering a personalized learning experience tailored to individual students needs and providing greater flexibility in scheduling.
4	Demonstration Based Learning	Demonstration-Based Learning is a teaching approach where concepts or processes are shown in action, helping learners visually understand and connect theory to practice. It enhances comprehension, retention, and application of knowledge by providing clear, practical examples.

5	Flipped classrooms	A flipped classroom approach involves students engaging with video lectures or reading materials outside of class, reserving class time for interactive assignments, projects, and discussions. This model promotes hands-on learning and fosters collaboration during classroom sessions.
6	MITS Digital Library	The digital library offers expert video lectures from renowned professionals, enabling faculty and students to access NPTEL e-tutorials, MOOCs, and various other online learning resources with ease. MIT Open Courseware: Link : https://ocw.mit.edu/courses/audio-video-courses/ NPTEL video lecture: Link : https://nptel.ac.in/
7	E-Studio	E-studio facility which faculty members can use to take TLP process to a higher level to make task of studying simpler and to achieve better results. Link: https://mits.ac.in/e-content#ug-tab19
8	AICTE Virtual studio	The initiative provides remote access to simulation-based labs in Science and Engineering, encouraging curiosity-driven experimentation to understand concepts. It also includes a Learning Management System with web resources, video lectures, animations, and self-assessment tools for effective learning. Link: https://www.vlab.co.in/broad-area-computer-science-and-engineering

Student Benefits

1. **Enhanced Engagement:**
   By breaking away from traditional methods, students are more Engaged, motivated, and actively involved in their own learning journey.

2. **Practical Skill Development:**
   Emphasis on projects, interactive sessions, and collaborative activities ensures that students acquire practical skills, making them industry-ready upon graduation.

3. **Personalized Learning:**
   The incorporation of blended learning allows for personalized learning paths, accommodating varied learning styles and preferences

4. **Holistic Development:**
   Beyond academic excellence, our approach nurtures well-rounded individuals equipped with critical thinking, communication, and collaboration skills.

5. **Future-Ready Graduates:**
   The amalgamation of these strategies ensures that our graduates not only possess academic prowess but are also adaptive problem solvers, ready to thrive in a rapidly evolving professional landscape.

Innovative tools used by the faculty in teaching and learning process

S.No.	Name of the Faculty	Nature of Activity	Name of the subject	YouTube Link
1	Dr.R.Nidhya	Role Play Project Based Learning	Data Structures	https://youtu.be/hQhUbGmHetY https://youtu.be/-sO0a8ldNy4
2	Dr. K. Sudhakar	Demonstration Based Learning	Java Programming	https://youtu.be/MeF6pyVh9VM
3	Mr. T Thangarasan	Simulation Based Learning	Internet of Things Lab	https://youtu.be/enZOeydjGAE
4	Mr. B Anandaraj	Flipped Classroom	Python Programming	https://youtu.be/CTXikYYde6k
5	Dr. Goutham Chakraborty	Demonstration Based Learning	Eigen Values, Eigen Vectors, PCA, LDA and Applications	https://youtu.be/dz9A7iZbgeY?si=3nZvdFLnZvQhFHeH

6	Dr. G. ArunKumar	Demonstration Based Learning	Internet of Things (IOT)	https://youtu.be/CCen9WUe4xU?si=FevPWQt5zbMl6dbF
7	Dr. G. Sreenivasulu	Demonstration Based Learning	Code Optimization in Compiler Design	https://youtu.be/cZ1nopoojpU?si=YBIdU1q1U8awTUW_
8	Mrs. G. Vasundhara Devi	Demonstration Based Learning	Control Statement in C Programming	https://youtu.be/1TBNBqFqcX0?si=mk-7szQufyGsIa99
9	Mr. G. Muthugurunathan	Demonstration Based Learning	Conversion of NFA to DFA	https://youtu.be/yNnLScqyaMU?si=Y1W6weMbzv0j6X1A