

2.3 - Teaching- Learning Process

2.3.1 - Student-centric methods such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences:

The institution prioritizes student-centric approaches to cultivate lifelong learning skills and offers a robust platform for students to refine their technical prowess by acquiring the latest skills, knowledge, attitudes, and values. An annual project expo is organized, allowing students to present their learning through innovative projects. Additionally, students are motivated to engage in inter-college and national-level competitions. Each department conducts inventive programs that foster students' creativity, offering a platform to develop problem-solving skills and facilitate participatory learning.

Class Room Lecture and Interactive learning:

The instructors employ a combination of traditional methods such as chalk and board, as well as modern audio-visual aids in their teaching. Actively encouraging student interaction, they prompt students to seek clarification for doubts during lecture hours. Beyond classroom instruction, our students are urged to engage in experiential learning, participative learning, and problem-solving activities.

Experiential Learning:

The following experiential learning practices are incorporated by the institute to boost the creativity and cognitive skills of the students.

- Industrial Visits: Industrial Visits engage them in experiential learning while visiting the industry or organization.
- Internship: Students are encouraged to attend internship programs in industries to get hands-on training.
- Field trip is arranged usually for final year students for getting knowledge from industries.
- Projects: During the period of study in the 6th to 8th semester, many real time projects are given to the students and they are guided by both faculty and Research personnel.
- Many of the final year UG and PG projects are Industry based real time projects.
- Value-added Courses (Certification Courses) are conducted by market experts to develop their expertise.
- Students are taught advanced versions of Software like Oracle, MATLAB, PLC/SCADA, E TAP, etc. during their study.
- Participation in simulated events such as simulated stock exchanges or hackathons where they acquire experience of working on some real-life model.
- Laboratory Sessions are conducted with content beyond syllabus experiments.

Participative Learning: The Institute encourages the students to actively participate in various activities such as seminars, group discussions, projects, and skill-based add-on courses.

- Technical Symposium- This is organized every year by the students in which students from different colleges participate and learn from each other.
- Annual cultural program – This is organized every year for the students of the college to give a vent to their creativity.
- Student Seminars and workshops are conducted to improve their learning skills and BEC Training classes are conducted to improve their communication skills.
- Presentation and publishing of papers in conferences and journals - The objective is to give them exposure to learn new skills.
- Guest Lectures are conducted by inviting eminent persons from Industry and Academics.
- Alumni students are invited for technical talk to share their wealth of experience and skills.
- Students are formed into group and assigned some Power point presentation, seminars and poster presentation on a specified topic.
- Placement training periods are allotted for higher semester students and they are trained by professional trainers to ensure them to be placed in good companies.
- Extensive awareness is created among the students about the openings in different public sector undertakings and the national Level examinations for Government services.

Problem solving: All Departments encourage the students to acquire and develop problem-solving skills such as problem solving in laboratories like Programming laboratories, electrical, electronics, and mechanical engineering laboratories.

- All the laboratories have excellent facilities, both hardware and software based.
- Tutorial hours are allotted in time table for solving problems in problem oriented courses in Engineering Programme.
- Mini Projects development
- Hackathon participation
- Organizing Hackathon Events
- Participation in Inter college events
- Case studies Discussion
- Class room presentations

Activity based Learning:

The method of learning by doing activities is known as Activity-based Learning.

- Activity-based Learning allows students to personally engage in their own learning environment through meaningful experiences like problem solving and autonomous inquiry.
- This helps to empower students with problem-solving, logical thinking and imagination skills by enabling them to discover, practice and think better through Activity-based strategies.
- Activity-based Learning is a student centered approach in which the responsibility for learning is placed upon the student, often working in collaboration with classmates.

- The presentation of facts, so often introduced through straight lecture, is deemphasized in favour of
 - Technical seminar
 - Oral presentation
 - Problem solving Skill Development
 - Group Discussion
 - Debatefollowed by Class discussion.



ACTIVITY BASED LEARNING: Technical Hangman - Electromagnetic Fields – II ECE A



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Participative Learning: Seminar Presentation on Electromagnetics in Internet of Things by II ECE A student.



Participative Learning: Technical talk on 5G- New Radio System-RU System by Mr. RAHUL Sr.Hardware Engr.(RF) Capgemini, Chennai, organized by ECE department on 24.04.2023.



Participative Learning: Alumni Interaction on Planning for career development by SIVAKUMAR M, Sr. Business Development Associative, BYJUs, ECE department on 27.02.2023



Participative Learning: Industry Interaction on Challenges and Opportunities as Entrepreneurs by Dr. KAMALUDEEN K.S., Founder & CEO B-accuracy infotech, on 27.02.2023



Experiential Learning: Industrial visit to Sewage treatment plant in Kodungaiyur, organised by Civil Department on 10.04.2023.



Experiential Learning: Industrial visit to PUMO Technovation India Pvt Ltd., organised by IT Department on 17.11.2022.

MODEL BASED LEARNING



III ECE C – WAVEGUIDES AND ANTENNA THEORY

MODEL BASED LEARNING



IV YEAR – OPTICAL COMMUNICATION

MODEL BASED LEARNING



IV YEAR – IOT BASED SYSTEM DESIGN

INDUSTRIAL VISIT

Company: HATSUN AGRO PRODUCTS (HAP), REDHILLS, CHENNAI. **Date:** 7.2.23

Participants: III year A



Company: REGIONAL METEOROLOGICAL CENTRE, CHENNAI-6. **Date:** 29.8.22

Participants: III year A&B



Company: INTEGRAL CAOCH FACTORY, CHENNAI-38. **Date:** 6.9.22, 9.9.22, 13.9.22

Participants: II year A, B & C



Company: PUMO TECHNOVATION, CHENNAI-45

Date: 11.10.22, 13.10.22 **Participants:** II year A & B



GUEST LECTURE

Topic: Recent Trends in Robotics and its Applications

Guest Speaker : Mr. K. Baskaran, Tech. Head, PUMO Technovation.

Date: 18.8.22

Participants: III Year Students



Topic: Applications of Control Systems in Real World

Guest Speaker: Mr.P.Mathiyazhagan, Scientist E, GCS Division, CVRDE.

Date: 23.8.22

Participants: II year students.



Topic: Understanding Virtual Reality and Augmented Reality

Guest Speaker : Mr.R.Vijayarajan, Project Manager, Hogarth Worldwide, Chennai.

Date: 08.09.22 **Participants:** III year students.



Topic: CHALLENGES IN NETWORK SECURITY

Guest Speaker : Mr.Tyson Immanuel J, IT Analyst, TCS, Chennai.

Date: 18.4.23 **Participants:** III year students.



Topic: 5G- NEW RADIO RU SYSTEM
Guest Speaker : Mr.RAHUL , Sr.Hardware Engr., Capgemini, Chennai.

Date: 24.4.23 **Participants:** II year students.



ALUMNI INTERACTION

Topic: SKILLS TO BECOME AND SUCCEED AS AN ENTREPRENEUR

Guest Speaker : Mr.Srinivasan Padavattan, Tech Lead, Capegemini.

Date: 30.9.22 **Participants:** IV year students.



Topic: Chip Design and Development

Guest Speaker : Mr.Sainath, Design Verification Engr., Tessolve, Chennai.

Date: 15.10.22 **Participants:** IV year students.

