

Department of Electrical Engineering, Electrical & Electronics Engineering, Electrical & Computer Engineering

Name/Theme of CAR: -

Energy Efficiency & Sustainability

Objective:-

- Application of latest technologies for cost beneficial energy efficient sources.
- Application of new technologies, tools and strategies to make distributed generation more affordable.
- Impart creative, innovative and collaborative thinking practice among the students and faculties to design and develop energy efficient and sustainable sources and their optimal use to solve different national and global issues.
- Develop operational tools, models and simulations that optimize the benefits of plugin Electric Vehicles to the Electricity System.

Outcome:-

- Get exposure in developing new technologies and applications that enable cost beneficial energy efficient sources.
- Get a skilful atmosphere to identify, formulate and solve problems innovatively.
- Hands-on experience of using MATLAB tools for designing & simulation work.
- Get Project and Product Development skills under the practical guidance of Industry Experts.
- Develop the ability to participate in national level competitions, hackathons, learning summits, seminars, conferences, workshops.
- Able to work on business development activities, consultancy and start-up plans.

Faculty Members involved:-

The centre will be mentored by Industry Professionals, Academicians from reputed Universities, IITs, NITs and Resource Persons from Ajay Binay Institute of Technology, Cuttack.

Target Students:-

2ND Year (EE, ECE, EEE, ETC)

3RD Year (EE, ECE, EEE, ETC)

Activities Conducted:-

- Develop conceptual skills to identify, formulate and solve problems innovatively.
- Provide different platforms to expose the innovative ideas and problem solving skills of the students.
- Undertaking Case Studies and Simulation Exercises
- Hands on experience of working on MATLAB tools for designing & simulation work
- Design, simulation & control of power converters and motors
- Examining alternative energy systems (Solar PV System)
- Developing renewable energy based micro grid (Solar PV based)
- Project and Product Development activities on solving problem statements
- Participation and Publication activities in different competitive forums of national repute

Achievements:-

- Students of 3rd Year Electrical Engineering (2019-23 batch) presented a paper titled "Performance Enhancement of a Photovoltaic Cell using Seebeck Generator" in an International Conference ICACCCT'22 organized by Saveetha School of Engineering, AICTE & IET.
- Dibya Jiban Pradhan, Ashish Kumar Panda, Amit Kumar Behera & Mahesh Kumar Nayak from 3rd year electrical engineering (2018-22 batch) won 2nd prize in national level poster competition for UG engineering students in track #3 Electrical Power Engineering & Applications(EPEA) at Silicon Technodium 2021 for the poster on the theme "Soft Computational Boost for PV System"
- Students of 4th Year EE (2018-22 batch) developed a project titled "Solar Powered Drinking Water System"
- Students of 4th Year EEE (2018-22 batch) developed a project titled "IOT based Home Automation System"
- Students of 3rd Year EEE (2019-23 batch) developed a project titled "Solar Powered Motion Activated Light For Home".
- Students of 2nd Year EE (2020-24 batch) developed a project titled "12V, 5Amp Power Bank".
- Students of 3rd Year EEE (2019-23 batch) is working on a project titled "Conservation of Energy Using Modern Technology".

DEPARTMENT OF MECHANICAL ENGINEERING

Name/Theme of CAR: -

DESIGN & PROTOTYPING

Objective:-

- Instill the culture of critical, creative and collaborative thinking among the students and faculties to develop sustainable design.
- Impart necessary design skill to transform idea into tangible/intangible outcome.
- Practice to put the locally available materials and components into different prototypes.
- Convert promising prototypes into commercial products

Outcome:-

- Hands-on experience of working in a multidisciplinary team
- Learn the concept of design thinking and design process
- Get skilled in sketching and drawing using appropriate software
- Apply the knowledge and skill to identify problems and design workable solutions
- Exposure to industrial projects
- Knowledge of various fabrication practices
- Certifications on design domain from NPTEL-AICTE and other competent bodies
- Participation in seminar, conference, workshop, hackathon and other competitions
- Develop ability to write case studies, conference/journal articles
- Membership of professional bodies

Mentors:

This centre will be mentored by Industry professionals and the same will be facilitated on a continuous basis by the following faculties:

- Er. Debadutta Dash, MD, Shiballoy Multiflex Pvt. Ltd., Bhubaneswar- Industry Mentor
- Er. Shiba Mishra, Odisha Representative, IQAC Global Pvt. Ltd., Bengaluru- Industry Mentor
- Er. Chinmay Das, Department of Mechanical Engineering, ABIT-Faculty Coordinator
- Ar. Dillip Kar, Piloo Mody College of Architecture - Resource Person
- Er. Jyotirmayee Behera, Department of Mechanical Engineering, ABIT - Faculty Coordinator
- Er. Smita Samantaray, Department of Mechanical Engineering, ABIT - Faculty Coordinator

Target Students:-

- 2ND & 3RD YEAR STUDENTS (MECHANICAL ENGG.)

Activities Conducted:-

- Sketching of prototype/ electrical circuits/ building structure, etc. using software like AutoCAD, CATIA, Sketch up, Design Spark.
- Fabrication of prototype, engineering the experience.
- Testing of function, form, feature, freedom of design outcomes in laboratory/workshop and field.
- Participation in competition/ hackathon

Achievements:-

- Students have been participated in Smart India Hackathons-2021
- Students are doing small projects and craft works
- Students have enrolled in NPTEL Courses.

DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING

Name/Theme of CAR: -

AUTOMATION & ROBOTICS

Objective:-

Focus areas will involve various aspects of automation & robotics in both hardware and software. The key technological areas include:

- Embedded Intelligent System
- Smart Things for Smart City
- Intelligent Factory Automation
- Autonomous Vehicles (AIVs)
- Robotic Arms & control systems
- Wireless sensors & its connectivity

Outcome:-

- Successful career and adaptability to industry: Graduates will exhibit knowledge and skills to apply Automation & Robotics engineering to address upcoming technical challenges and advancements in the field of automation and robotics.
- Build up a strong engineering profile (resume) with performance in competitions, recognized certifications
- Get strong ideas & head start in technology prototypes for startup possibilities.
- Modern design tools and multi-disciplinary project execution: Graduates shall demonstrate practical and innovative skills in integrating various devices/machines through group design and project work.
- This course develops the ability among students to synthesize data and technical concepts for application to new product design.
- It prepares the students for successful careers in industry that meet the needs of Indian and multinational companies.
- To develop the ability to work effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

Industry Mentors:

- Dr. Hemanta Kumar Rath, Principal Scientist, TCS, Bhubaneswar
- Mr. Santosh Kumar Sahoo, L&T Smart World & Communication, Chennai
- Mr. Paramananda Jena, Scientist, LRDE DRDO, Bengaluru
- Nishanta Ranjan Nanda, Technical Specialist, HCL Technologies, Bengaluru (Alumnus of ABIT)

Faculties:

- Debakanta Behera (Dept. of Electronics & Telecommunication Engineering)
- Prasanjit Nanda (Dept. of Electronics & Telecommunication Engineering)
- Shubhalaxmi Mohapatra (Dept. of Electronics & Telecommunication Engineering)
- Annapurna Sahoo (Dept. of Electronics & Telecommunication Engineering)

- Prof. P K Champati (Dept. of Computer Science & Engineering)
- Prof. Biswaranjan Rout (Dept. Mechanical Engineering)
- Prof. Santosh Kumar Das (Dept. of Electronics & Communication Engineering, NIT Rourkela)

-

Target Students:-

- 2ND & 3RD YEAR STUDENTS (ETC, ECE, EE, CSE)

Activities Conducted:-

- Students are working on Different kind of Sensors, Application of Sensors, Simulators, Cloud Computing and Data Analysis

Achievements:-

- Students have been participated in Smart India Hackathons-2021
- Students are doing Sensor based Projects

DEPARTMENT OF CIVIL ENGINEERING

NAME/THEME OF CAR:

COMPOSITE MATERIAL:

Replacement of natural coarse aggregate with fly ash aggregate in concrete mix.

OBJECTIVES:

- **Application of composite materials in engineering and architecture fields as these are light in weight and have excellent mechanical properties.**
- **To create an ingenious, innovative and conjoint thought process among the students and faculties to design and develop strength efficient and sustainable composite building material and to use it for solving different national and global environmental issues with cost effectiveness.**

OUTCOME:

- **Production of composite building materials having reduced dead load which results in economic structural elements with enhanced seismic resistance, high sound absorption and good fire resistance.**
- **Hands-on experience of using Concrete Laboratory equipment to determine different physical as well as strength parameters of composite materials .**
- **Get Project and Product Development skills under the practical guidance of Industry Experts.**
- **Develop the ability to participate in national level competitions, hackathons, seminars, conferences, workshops.**
- **Able to work on business development activities, consultancy and start-up plans.**

FACULTY MEMBERS INVOLVED:

Resource Persons from Ajay Binay Institute of Technology, Cuttack.

TARGET STUDENTS:

4th Year

3rd Year

ACTIVITIES CONDUCTED:

- **Preparation and experimentation of composite building materials for its strength and efficiency.**
- **Participation in different competitive forums nationally.**
- **Publication activities in different journal forums.**
- **Hands-on experience of using Concrete Laboratory equipments to determine different physical as well as strength parameters of composite materials .**
- **Develop conceptual skills to identify, produce alternatives and solve problems innovatively**

DEPARTMENT OF MBA

Name/Theme of CAR: -

MARKETING & SOCIAL RESEARCH

Objective:-

- To understand the nature and scope of Market Research and Social Research.
- To provide adequate knowledge on Conceptual Research and Applied Research.
- Exposure to different statistical packages and analytical tools.
- To identify and formulate Social / Marketing problems from a research perspective and provide inferences or solutions for the same.
- Enable students to design and implement successful Marketing strategies and programmes.

Outcome:-

- Ability to analyze and interpret data using MS-Excel.
- Ability to formulate a Research Problem and present a report.
- Certification on Market Research and Analysis from NPTEL (recognized by AICTE)

Faculty Members involved:-

The centre will be mentored by Industry Professionals, Academicians from reputed Universities and Internal Resource Persons from MBA Department, Ajay Binay Institute of Technology, Cuttack.

Target Students:-

- MBA Students (1st year & 2nd year)

Activities Conducted:-

- To provide students a basic understanding of data, variables, types of analysis, tools of excel and fundamental statistical analysis.
- To make the students understand research methods and methodology.
- To help them learn different research tools like SPSS and R programming
- Identification of NPTEL Courses of relevance and motivating students for registration.
- Real Project Execution.

Achievements:-

- Akanshya Das & Dharitri Satapathy have successfully completed "DO Your Venture: Entrepreneurship For Everyone" an online course of study offered by the Indian Institute of Management Bangalore through IIMBx.
- Students have successfully completed internships and also enrolled NPTEL Courses.

DEPARTMENT OF MCA

Name/Theme of CAR: DATA SCIENCE

- **Python** full stack development

Objective:

- To make the students efficient enough to work on a project and to make them adaptable according to the current market scenario

Outcome:

- Students can represent themselves confidently in interviews and can handle the weird situations intelligently

Faculty Members involved: - Faculties of MCA and CSE

Target Students: MCA and B.Tech students

Activities Conducted:

- online and offline classes are taken related to a project
- Practical sessions are conducted along with specific assignments

Achievements:

At the end of the session the students are capable in the following ways:

- Students know the basics and some advanced features of python language with programming knowledge
- Students know how to design a web using front end tools like HTML and CSS.
- Students know how to connect python to the database MYSQL
- Students know how to write and run programs in a standard repository i.e. GITLAB
- Students know the overall working of a project