

ONE DAY
SKILL DEVELOPMENT PROGRAM

REPORT ON

“Application Awareness on CAD/CAE/CAM Tools”

24th March 2018

Held at

ACS COLLEGE OF ENGINEERING

Bengaluru

Supported by

MATRICAL TECHNOLOGIES



Organized By

Department of Mechanical Engineering



ACS COLLEGE OF ENGINEERING

(NBA Accredited, NAAC 'A' Accredited, HLACTION Accredited, ISO certified Institution)

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About

ACS COLLEGE OF ENGINEERING

ACS College of Engineering (ACSCE), Bengaluru, an NBA accredited, NAAC A accredited, HLACTION accredited, ISO certified institution, which was established in 2009 under Moogambiga Charitable Educational Trust which is approved by All India Council of Technical Education (AICTE) New Delhi and affiliated to Visvesvaraya Technological University (VTU), Belagavi. ACSCE offers 07 Undergraduate & 4 Postgraduate courses both in conventional and emerging areas, 04 of its Departments are recognized as Research Centers offering PhD/M.Sc (Engineering by Research) degrees in Science, Engineering. The College has been effectively practicing outcome based education.

Location and area: The city of Bengaluru is the gateway of Silicon Valley of India and is well connected with all the major cities in the country by rail, road and air. The ACSCE is about 18 km from central railway station and Bus station. The campus is on 05 sprawling hectares of land with beautiful landscapes, the campus provides an ideal environment for learning.

About

MATRICAL TECHNOLOGIES

Matrical Technologies, a Bangalore based company leverages on its extensive expertise in engineering & design services capabilities with exemplary domain and technical knowledge providing cost effective solutions, winding in value addition and customer satisfaction across industry steeps. We know-how in all major tools and CAD platforms to perform the design services to provide you with the legitimate commitment. Engineering solutions being our core competence, addressing towards our clients assistance to obtain featured engineering design solutions within stipulated time frame resulting in enhancing operational efficiency, reliability and potentially creating valuable market for tradable credits.

Matrical Technologies is dedicated to provide value added solution across the globe with our vast engineering and manufacturing solutions. We help companies in each stage of the Product Life Cycle starting with the preliminary study required to conceptualize and understand the product. Our integrated offerings span industries. We deliver custom-made solutions depending on what your needs are. Our Engineering and Design team of experts help you reduce your time to market and cut operating costs while improving process and product efficiency.

About the Skill Development Program on “Application Awareness on CAD/CAE/CAM Tools”

ACS College of Engineering, Bangalore in its efforts to create skills for the enterprising youth who are capable of surviving in an society has been making some interventions in this direction through its Skill Development Program. The Skill Development Programs are targeted both for students of the various schools, colleges and universities.

This Skill Development Program is designed to train the students in the area of Application of CAD/CAM/CAE for the today engineering world.

Goal of the Program

- Create an awareness of the need and importance of CAD/CAM/CAE.
- Impart knowledge and develop skills in diverse training methods in imparting training to students.
- Plan curriculum that can imbibe the skills and competencies to achieve goals directed by values, have a positive attitude and have the ability to cope with the changing times.
- Develop students an professional mindset.
- Make them aware about Computer Aided Design, Computer Aided Manufacturing and Computer Aided Engineering.
- Guide them for techniques of using CAD tools.
- Guide them for “Techniques of handling tools”.

The Department of Mechanical Engineering organized the skill development program for the 2nd year and 3rd year Mechanical Engineering students. The session was handled by the Ashis Alden D Souza, Marketing Associate, Matrical Technologies, and Bangalore.

The program has been developed to cater to spectrum of engineering students to enhance their skills and grow their career through higher productivity and technical expertise meeting industry needs.

The program organized for Upgrading Design Engineers Skills in Product Development Support Activities, using cutting Edge Technology Tools based on Domain Centric Professional Training Modules.

The program are designed for efficient learning through a cautious blend of theory and hands-on practical sessions. The benefits of CAD/CAM/CAE include lower product development costs, increased productivity, improved product quality and faster time-to-market.

CAD (COMPUTER AIDED DESIGN)

Better visualization of the final product, sub-assemblies and constituent parts in a CAD system speeds the design process. CAD software offers greater accuracy, so errors are reduced. A CAD system provides easier, more robust documentation of the design, including geometries and dimensions, bills of materials, etc. CAD software offers easy re-use of design data and best practices.

CAD Software

- CATIA V5
- AUTOCAD
- SOLIDWORKS

CAM (COMPUTER AIDED MANUFACTURING)

Computer-aided manufacturing (CAM) commonly refers to the use of numerical control (NC) computer software applications to create detailed instructions (G-code) that drive computer numerical control (CNC) machine tools for manufacturing parts. Manufacturers in a variety of industries depend on the capabilities of CAM to produce high-quality parts.

- CAM systems can maximize utilization of a full range of production equipment, including high speed, 5-axis, and multi-function and turning machines, electrical discharge machining (EDM) and CMM inspection equipment.

- Advanced CAM systems with product lifecycle management (PLM) integration can provide manufacturing planning and production personnel with data and process management to ensure use of correct data and standard resources.
- Available CAM Software for learning with us
 - CATIA CAM
 - MASTERCAM
 - DELCAM

COMPUTER-AIDED ENGINEERING (CAE)

Computer-aided engineering (CAE) is the use of computer software to simulate performance in order to improve product designs or assist in the resolution of engineering problems for a wide range of industries. This includes simulation, validation, and optimization of products, processes, and manufacturing tools.

- Kinematics and dynamic analysis of mechanisms (multibody dynamics).
- Acoustics analysis using FEA or a boundary element method (BEM).
- 1D CAE, or mechatronic system simulation, for multi-domain mechatronics system design.
- Mechanical event simulation (MES).
- Simulation of manufacturing processes like casting, molding and die press forming.
- Optimization of the product or process.

CAE TOOLS TRAINING AT MATRICAL TECHNOLOGIES

- ANSYS
- HYPERMESH
- ICEM CFD
- CFX



**PHOTOGRAPH OF THE SKILL DEVELOPMENT PROGRAM SESSIONS ON APPLICATION
AWARENESS ON CAD/CAM/CAE**

