



ENGINEERING STAFF COLLEGE OF INDIA

(An ISO 9001:2015 Certified, AICTE & CEA Recognized Institution)

Autonomous Organ of the Institution of Engineers (India)

Old Bombay Road, Gachibowli, Hyderabad – 500 032. Telangana, India



Design Prototyping Centre & Mechanical Division

Continuing Professional Development Programme on Engineering Design using CATIA

10 – 13 November 2026

INTRODUCTION

Design is the creation of a plan or convention for the construction of an object, system or measurable human interaction (as in architectural blueprints, engineering drawings, business processes, circuit diagrams, and sewing patterns). Design has different connotations in different fields. In some cases, the direct construction of an object (as in pottery, engineering, management, coding, and graphic design) is also considered to use design thinking.

CATIA V5 course introduces the user to CATIA V5, one of the world's leading parametric solid modeling packages. This course emphasizes on the solid modeling techniques that enhance the productivity and efficiency of the user. CATIA V5 is the only solution capable of addressing the complete product development process which facilitates true collaborative engineering across the multi-disciplinary extended enterprise, including style and form design, mechanical design, equipment and systems engineering, digital mock-up, machining, analysis and simulation. This course is structured in a pedagogical sequence, covering the Part, Assembly, Drafting, Wireframe & Surfaces and Generative Sheet metal Design workbenches of CATIA V5. Every session provides with detailed explanation of the commands and tools in CATIA V5. This approach allows the user to understand and use the tool in an efficient manner.

OBJECTIVES

The objectives of the programme are:

- To generate awareness on CATIA and significance of Design fundamentals
- To develop and sharpen Technical & Design Aptitude of the participants and to understand Design for Manufacturing
- To discuss the various issues that the participants face every day in Design and capacitate them with Error Correction and Problem Solving skill

COURSE CONTENT

The following topics will be covered during the training programme:

Engineering Basics & Introduction to Tool

- Part Design
- Introduction to Sketcher
- Creation of basic sketches
- Sketch Tools, Operating the basic profile to get desired 2D Sketch
- Analyzing the degrees of Freedom of the sketch, Sketch based features
- Saving assembly into the database using save management

Drafting

- Introduction to generative drafting
- Frame, title block and view generation
- Saving a drawing document and its links
- Adding section views and cuts for detail information
- Annotations, texts and different tools to improve the view

- Pads, pockets, revolved features and swept features & Dress up features

Assembly Design

- Introduction to assembly design
- Importing existing parts into assembly design
- Positioning the parts at their respective positions
- Defining the assembly constraints

Generative Shape Design (Surfacing)

- Wireframe creation to create skeleton for surfaces
- Creation of basic surfaces - Extrusion, revolving, offsets
- Surface operation
- Assemble, relimit and connect the surfaces
- Analyzing the quality of surfaces

Centre for Promotion of Professional Excellence

METHODOLOGY

The programme will adopt interactive lectures, live demonstrations, hands-on modelling exercises, assembly and drawing practice, and case studies. Emphasis will be placed on developing practical proficiency in 3D modelling, assembly design, engineering drawings and design validation using SolidWorks.

TARGET PARTICIPANTS

The programme is intended for professionals from Government, Private and Public Sector Undertakings; engineers and scientists from aerospace, automotive, manufacturing, materials and metallurgical industries; personnel involved in design, development, production, testing, inspection and failure analysis; researchers, faculty and postgraduate students from universities and research laboratories; and professionals engaged in materials characterization, new product development, quality assessment, repair and overhaul activities.

CERTIFICATION

A Certificate of participation will be awarded to all the participants after the successful completion of the training programme.

COURSE DIRECTOR

Dr. N V S S Sagar

Faculty & Head i/c,
Design Prototyping Center and Mechanical Division
Engineering Staff College of India,
Gachibowli, Hyderabad.
Email: dpc@escihyd.org
Contact No.: 9052291738 or 040 – 66304186

COURSE COORDINATOR

Mr. Aliga Raju

Faculty
Design Prototyping Center and Mechanical Division
Engineering Staff College of India,
Gachibowli, Hyderabad.
Email: dpc@escihyd.org
Contact No.: 9908689758 or 040 – 66304184

PROGRAMME DATES: 10 – 13 November 2026

COURSE FEE: Rs. 24,000/- (Rupees Twenty Four Thousands Only) per Participant + GST@18% Extra. Fee includes, course material, course kit, twin-sharing/single AC accommodation as per availability, breakfast, lunch, dinner, tea / coffee and snacks during the actual days of training programme.

DISCOUNT:

Additional 10% discount for three or more participants, if sponsored by the same organization. PAN Card No **AAATT3439Q**; GST No. **36AAATT3439Q1ZV**. H.S. No. 999293 (Under commercial training or coaching services – clause 65(105) (ZZC) of Finance act – 1994).

Programme fee is to be paid in in favor of “**THE INSTITUTION OF ENGINEERS (INDIA) – ENGINEERING STAFF COLLEGE OF INDIA**” in the form of Demand Draft (DD) payable at Hyderabad. Alternatively, the payment may be made by Electronic Fund Transfer (EFT) to ESCI - SB A/c No. **10007111201** with **State Bank of India**, P.B.B / Khairatabad, Rajbhavan Road, Hyderabad-500004 by RTG's/ NIFT / **IFSC Code No: SBIN0004159**. While using EFT method of payment, please ensure to communicate us your company name, our Invoice reference and programme title.

REGISTRATION:

To register, please send your nominations by providing name, designation, contact address, email address, mobile no, telephone and fax number of the participant along with the details of mode of payment of fee, addressed to: dpc@escihyd.org/mechanical-dpc@escihyd.org. For more details please contact our program officer, **Mr. K. Raghuveera Reddy, Mobile No: 9849988930**.

GENERAL INSTRUCTIONS:

ESCI provides complimentary accommodation and boarding to the participants one day before commencement (Check-in 12:00 h) and one day after conclusion (Check-out 12:00 h) of the programme duration. Overstay charges will be applicable as per ESCI rules (subject to availability of accommodation).