ACS College of Engineering

#207, Kambipura, Mysore Road, Bangalore – 560 074.

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NAAC 'A' GRADE

DEPARTMENT OF AEROSPACE ENGINEERING

Report for Two Days Hands on Training on "Basics of Computational Fluid Dynamics"

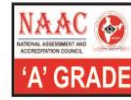|		
Name of the Event	:	Hands on Training on CFD
Resource Person	:	**Mr. Praveenkumar. M**
		Mr. Prasanth. M
		Mr. Mohana Pratheep. A
		JRF Team, ACSCE.
Date & Time	:	02-03 August 2023 & 9.00 AM to 4.30 PM
Venue	:	IV Floor Seminar Hall
No. of Participants	:	43 Students.

About the Program

The two days hands on Training on Basics of Computational Fluid Dynamics was organized to enhance the knowledge of Aerospace Engineering students in design and modelling of Fluid dynamic problems.

This training would help every student to understand the basics of Fluid Mechanics and Structural mechanics. Students will be able to analyze the aerodynamic characteristics of an aircraft and spacecraft such as lift, drag, and stability, as well as the performance of its propulsion system. Installation of ANSYS Software, Tools used, Problem Modeling in Solid and Fluid mechanics have been discussed.

Dr. R. Mukesh addressed the students about the importance of CFD in aviation and introduced the resource persons. Then the resource persons handled the very informative sessions as per the schedule attached below.
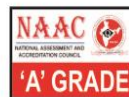
At the end of the session, students interacted with the resource persons to clarify their doubts. The resource persons were honored with the memento by Dr. C. Suresh and Dr. V. Paramaguru and Student volunteers of Aerospace Department Students expressed their gratitude that the program was highly informative and interesting. Finally, the session ended with the vote of thanks.

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Event Schedule:

| DAY 1	Date & Session	Resource Person	Designation & Address	Topic Details
03.08.2023	09.00 am to 10.30 am	Prashanth. M Mohana Pradeep. A	JRF, Department of Aerospace Engineering, ACS College of Engineering, Bangalore.	Software Installation, Introduction – PLM, CAE, Design Validation and types FEM, BEM, FVM, FDM
	10.30 am to 10.45 am - TEA BREAK			
	10.45 am to 12.45 pm	Prashanth. M Mohana Pradeep. A	JRF, Department of Aerospace Engineering, ACS College of Engineering, Bangalore.	Structural Analysis: , Introduction to software Geometry Creation, Meshing the Geometry, Assigning the Boundary, Taking the Results.
	12.45 pm to 01.30 pm - LUNCH BREAK			
	01.30 pm to 02.45 pm	Praveen Kumar M	JRF, Department of Aerospace Engineering, ACS College of Engineering, Bangalore.	Types of flow Analysis, Collecting the Airfoil Coordinates, Y+ Estimation, Introduction to software, Importing the Coordinates, Generation of Airfoil using the options in Geometry, Topology Check. Types of Domain
	02.45 pm to 03.00 pm - TEA BREAK			
	03.00 pm to 04.00 pm	Praveen Kumar M	JRF, Department of Aerospace Engineering, ACS College of Engineering, Bangalore.	Domain creation, Structured Mesh: Creating and Splitting the Block, Editing the Block for proper quality, Premesh Parameters, Quality check of the Mesh, Assigning the Boundary Condition.

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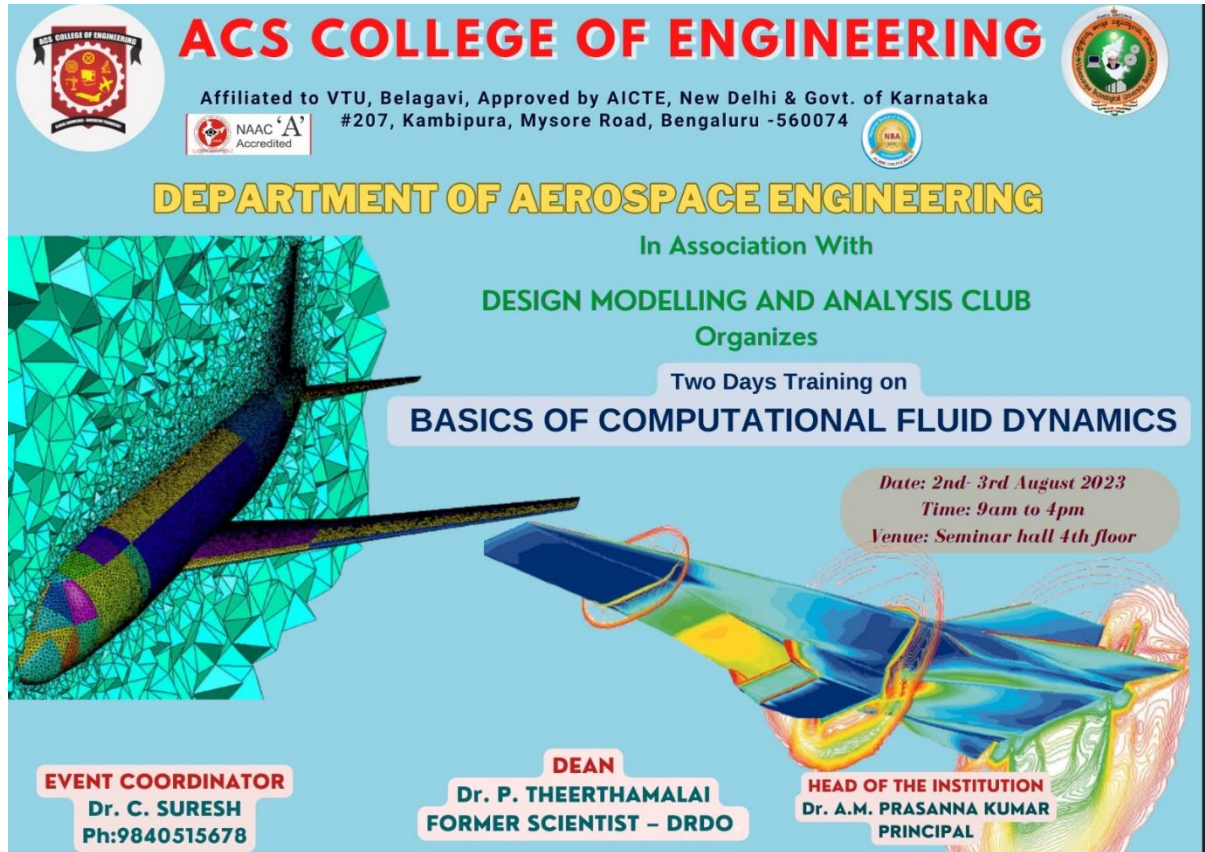| DAY 2	Date & Session			
04.08.2023	09.00 am to 10.30 am	Praveen Kumar M	JRF, Department of Aerospace Engineering, ACS College of Engineering, Bangalore.	Unstructured Mesh: Setting the Global Mesh parameter, Part mesh setup, Checking the Mesh quality, Smoothing the mesh, Assigning the Boundary Condition.
	10.30 am to 10.45 am - TEA BREAK			
	10.45 am to 12.45 pm	Praveen Kumar M	JRF, Department of Aerospace Engineering, ACS College of Engineering, Bangalore.	3-D Meshing: Extrusion of mesh, Importing the Geometry, Geometry Cleanup, Geometry Creation, Creation of domain, Setting the Global Mesh parameter, Part mesh setup, Checking the Mesh quality, Smoothing the mesh, Assigning the Boundary Condition.
	12.45 pm to 01.30 pm - LUNCH BREAK			
	01.30 pm to 02.45 pm	Praveen Kumar M	JRF, Department of Aerospace Engineering, ACS College of Engineering, Bangalore.	Fluent: **Setup**-General, Model, Boundary condition, Reference Values, **Solution-**Methods, Report Definition, Initialization, Run calculation. Saving the Case and Data File.
	02.45 pm to 03.00 pm - TEA BREAK			
	03.00 pm to 03.45 pm	Praveen Kumar M	JRF, Department of Aerospace Engineering, ACS College of Engineering, Bangalore.	Graphics: Pressure contours, Velocity Contours, Reports. Results: Contours and Stream line Applications
	03.45 pm to 04.00 pm	Dr. R. Mukesh.	Professor, Department of Aerospace Engineering, ACS College of Engineering, Bangalore.	Overview of the Session and Conclusion.

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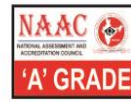
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Event Poster :

Gallery:

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