



ACS COLLEGE OF ENGINEERING

Kambipura, Mysore Road, Bengaluru - 560074
(Affiliated to VTU, Approved by AICTE, Accredited to NAAC A Grade and
Recognized by Govt of Karnataka)



DEPARTMENT OF AERONAUTICAL ENGINEERING
(Accredited by NBA)

Event Report (AY2023-2024)

Name of the Event	: Two Days Hands on Training on “Fundamentals of CFD using ANSYS”
Date & Time	: 22/08/2023 & 23/08/2023
Place	: AE Seminar Hall
Resource Person	: Mr.Praveen & Mr Prashanth JRF, ACSCE, Bangalore
No of Student Participants	: 76 Students
Event Coordinator	: Dr.Inamul Hasan M

About the Event:

The two days hands on Training on fundamentals of CFD using ANSYS were 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. G.Ramanan 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.Anand and Dr Inamul Hasan and Student participants of Aeronautical Department Students expressed their gratitude that the program was highly informative and interesting. Finally, the session ended with the vote of thanks.



Topics Covered:

1. Software Installation, Introduction – PLM, CAE, Design Validation and types FEM, BEM, FVM, FDM
2. Structural Analysis: Introduction to software Geometry Creation, Meshing the Geometry, Assigning the Boundary, Taking the Results.
3. 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
4. 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.
5. Unstructured Mesh: Setting the Global Mesh parameter, Part mesh setup, Checking the Mesh quality, Smoothing the mesh, Assigning the Boundary Condition.
6. 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.
7. Fluent: Setup-General, Model, Boundary condition, Reference Values, Solution-Methods, Report Definition, Initialization, Run calculation. Saving the Case and Data File.
8. Graphics: Pressure contours, Velocity Contours, Reports. Results: Contours and Stream line Applications

Event Pictures:





Event Coordinator

Dr.Inamul Hasan

HOD

Dr.G.Ramanan

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