

## **Introductory Fluent 6.2 Training Course**

**COURSE NO: FL10020 LENGTH: 2 Days**

Fluent 6.2 is a state-of-the-art computer program for modelling fluid flow and heat transfer in complex geometries. All functions required to compute a solution and display the results are accessible through an interactive, menu-driven interface. This course is intended for people who have had little or no experience with Fluent 6. Participants will learn about CFD modelling procedures, setting boundary conditions, turbulence modelling, heat transfer and other processes including multiphase flows.

### Day 1 Agenda

|         |  |
|---------|--|
| 8.30am  | Registration                           |
| 9.00am  | Lecture: Introduction to FLUENT        |
|         | Lecture: Overview of the CFD Process   |
| 10.00am | Fluent 6 Demonstration                 |
| 10.30am | Tutorial: Introductory Tutorial        |
| 12.30pm | Lunch                                  |
| 1.30pm  | Lecture: Boundary Conditions           |
| 2.15pm  | Tutorial: Boundary Conditions Tutorial |
| 3.45pm  | Lecture: Solver Settings               |
| 4.30pm  | Tutorial: Solver Settings Tutorial     |
| 5.30pm  | Break for the day                      |

### Day 2 Agenda

|         |  |
|---------|--|
| 9.00am  | Lecture: Turbulence Modelling                            |
| 9.45am  | Tutorial: Moving Component Tutorial: Using the MRF model |
| 11.15pm | Lecture: Heat Transfer Modelling                         |
| 12.00pm | Tutorial: The Mixture and Eulerian Models                |
| 1.00pm  | Lunch  |
| 2.00pm  | Lecture: Multiphase Modelling                            |
| 3.00pm  | Tutorial: Evaporating Liquid Spray                       |
| 4.30pm  | Tutorial: The Eulerian model for Granular Flows          |
| 5.30pm  | Break for the day  |

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## **Introductory Gambit 2.2 Training Course**

**COURSE NO: FL10011 LENGTH: 2 Days**

GAMBIT is an integrated pre-processor for CFD analysis. GAMBIT is used to build your geometry and generate a mesh for it or, alternatively, import geometry created by a third-party CAD/CAE package, make modifications to it and generate the mesh. You will learn how to use all of the meshing options including geometry decomposition for structured meshing, automatic unstructured hexahedral meshing, and high quality triangular and tetrahedral grid generation. This course is for beginners to GAMBIT who are using either of the Fluent solvers FLUENT 6, FIDAP 8, and POLYFLOW 3.

### Day 1 Agenda

|         |  |
|---------|--|
| 9.00am  | Lecture: Introduction + Demonstration                  |
| 10.15am | Tutorial: Creating and Meshing Basic Geometry          |
| 11.00am | Lecture: Creating Geometry in Gambit                   |
| 11.45am | Tutorial: Geometry Creation Exercises                  |
| 1.00pm  | Lunch  |
| 2.00pm  | Lecture: Edge/Face Meshing and Mesh Quality            |
| 2.45pm  | Tutorial: Edge and Face Meshing Exercises              |
| 4.00pm  | Lecture: Volume Meshing and the Sizing Function        |
| 4.45pm  | Tutorial: Volume Meshing and Sizing Function Exercises |
| 6.00pm  | Break for the day                                      |

### Day 2 Agenda

|         |   |
|---------|---|
| 9.00am  | Volume Decomposition Examples                                       |
| 9.30am  | Lecture: CAD/CAE Import and Geometry Clean-up (Virtual Geometry)    |
| 10.15pm | Tutorial: Geometry Import Exercise: Drill Bit - STEP Geometry       |
| 11.30am | Lecture: Clean up Tools   |
| 12.30pm | Lunch   |
| 1.30pm  | Lecture: Mesh Control through Boundary Layers and Face Vertex Types |
| 2.15pm  | Tutorial: Vertex Types  |
| 3.30pm  | Work on your own Gambit/Fluent Project                              |
| 5.00pm  | Break for the day   |

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