

Short Term Course cum Training program on
Multi-physics Modelling Techniques using CFD
 25 - 29 June, 2018, Mechanical Engineering, IIT (B.H.U), Varanasi, U.P, India

Tentative schedule

Day↓ Time→	9.30-10.00 AM	10.00-10.45 AM		11.00-1.00 PM		2.00-3.00 PM	3.00-4.00 PM		4.10-5.30 PM	5.30 - 6.00
DAY 1: Monday (25th June)	Registration & Inauguration		T E A L U N C H T E A	CAD based CFD	L U N C H	Mesh Generation Techniques		Boundary Layer	O V E R N I G H T A S S I G N M E N T S	
	VENUE: New Seminar Hall, Dept. of Mechanical Engineering VENUE for rest of the classes: CAD lab			CFD, Parts, assembly design using Computer Aided Design (CAD)		Why and how 2D & 3D mesh, Surface features, organising, mesh quality, refining in critical zones etc.		Boundary layer mesh generation techqnies: 2D and 3D		
DAY 2: Tuesday (26th June)	Overnight assignment	Differential equations		Scale analysis-I		Scale analysis-II	CFD Model			CFD Post-Processing Techniques: contours, vectors, streamlines, animations etc.
	Review and solution	Types and background		Laminar heat transfer flows, order of magnitude method for thermal/hydrodynamic boundary layer thickness		Turbulent flows, order of magnitude method				
DAY 3: Wednesday (27th June)	Overnight assignments	CFD Theory		Heat Transfer Modelling		Nanofluid Heat Transfer		Nanofluid CFD Models		
	Review & solution	Solution techniques of differential equations		Conjugate heat transfer, Natural convection, PCM etc.		Background, Eulerian/Lagrangian flows, Modelling interfaces		Modelling techniques		
DAY 4: Thursday (28th June)	Overnight assignment	Multi-Phase Flows-I		Multi-Phase Flows-II		Energy Storage Modelling		Energy Storage Modelling		
	Review & solution	Volume of Fluid, Interface tracking		CFD models for multi-fluid mixing		Modelling Phase Change, Heat Storage		PCM + Conjugate HT + Other materials		
DAY 5: Friday (29th June)	Overnight assignment	Porous Media Modelling		Porous Media Modelling			Valedictory Function			
	Review & solution	Background		CFD Model Development			VENUE: New Seminar Hall			