

VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY, BURLA

LESSON PLAN

Semester: 3rd (Third)

Subject: Fluid dynamics (Theory)

Branch: Chemical Engineering

Name of the Faculty Member: Mr. Amit Kumar Behera

Period	Module/Number	Topic to be covered
1	01	Introduction
2	01	Units and dimensional analysis
3	01	Fluid Static
4	01	Hydrostatic Pressure, Pressure measuring Devices
5	01	
6	01	
7	01	Fluid kinetics
8	01	Flow in boundary layers
9	01	Boundary layers formation & growth in tubes & plates.
10	01	
11	01	
12	01	Basic equations of fluid flow continuity, momentum & Bernoullies equation
13	01	
14	01	Introduction to Liquid Fuels and different Theories
15	01	Flow measuring devices; Venturi, Orifice, Pitot tube & Rotameter.
16	01	
17	02	
18	02	Flow of incompressible fluid in pipes, Relation between skin friction & wall shear
19	02	Laminar flow in pipes, Hagen-Poiuilles equation.
20	02	
21	02	
22	02	Friction factor, Friction from changes in velocity or direction
23	02	Flow of compressible fluids.
24	02	Flow past immersed bodies, Drag Co-efficient.
25	02	
26	02	
27	02	Motion of particles through fluids. Its mechanics, terminal Velocity.
28	02	
29	03	
30	03	Friction inflow through beds of solids.
31	03	Fluidization, Mechanism of fluidization, pressure drop in fluidization, Application of fluidization.
32	04	
33	04	
34	04	Transportation of fluids, Reciprocating rotary & centrifugal pump, fans, blowers & compressors. Characteristics curves & calculation of power & efficiency of pumps. Concept of slip
35	04	
36	04	