

FLUIDS LAB

EXPERIMENTS

- **Energy Losses in Bends**
 - short, medium, long elbow of 90°
 - narrowing section, widening section
- **Venturi, Bernoulli, Cavitation Unit**
 - Verification of Bernoulli principle
- **Fluid Friction in Pipes**
 - Varying diameter
 - Varying material
- **Dead Weight Calibrator**
 - Bourdon type manometer calibration.
 - Hysteresis curve
- **Hydrostatic Pressure**
 - Center of pressure
 - Resultant force
 - Partially, totally submerged
- **Impact of Jet**
 - Flat surface
 - Curve surface of 120°
 - Semispherical surface
- **Pelton Turbine**
 - Operational characteristics
- **Orifice Discharge**
 - Venturi type thin wall nozzle
 - Cylindrical type thick wall nozzle
 - Colloidal type thin wall nozzle
 - Discharge, velocity & load coefficient
- **Flow over Weirs**
 - Rectangular neckline
 - V-shape neckline
- **Pascal's Module**
 - Pascal's principle
 - Pressure variation with height

This laboratory course introduces students to the concepts of engineering measurement and experimentation in fluid mechanics. It develops physical understanding through experimentation as students analyze raw data and organize the results into a comprehensive lab report.

Major Equipment

- Hydraulic Bench
- Energy Losses in Bends
- Venturi, Bernoulli, Cavitation Unit
- Fluid Friction in Pipes
- Dead Weight Calibrator
- Hydrostatic Pressure
- Impact of Jet
- Pelton Turbine
- Orifice Discharge
- Flow over Weirs
- Pascal's Module

