CALIFORNIA STATE UNIVERSITY LONG BEACH

# Bernoulli's Theorem Demonstration

COLLEGE OF ENGINEERING

**DO NOT** use this equipment unless an instructor has instructed you in its safe use/operation and has given permission.

Safety glasses may be required in work areas.

Long and loose hair must be contained or constrained.

Appropriate footwear with closed-toe must be worn.

Long-pants are required.

Rings and jewellery must not be worn.

Protective gloves may be required.

## PRE-OPERATIONAL SAFETY CHECKS

1. **Check workspaces and walkways to ensure no slip/trip-hazards are present.**
2. **Check that all equipment components are in position and are operational.**
3. **Ensure you are familiar with the operation of the equipment.**
4. **Keep table and work area clear of all tools and debris.**
5. **Faulty equipment must not be used. Immediately report suspect equipment.**
6. **Be aware of any other students or personnel in the immediate vicinity and ensure the area is clear before using this equipment.**
7. **Familiarize yourself with all mechanical operations, switches and controls, including potential chemicals that may be used.**
8. **If you have any questions or concerns, ask the laboratory technician or instructor first.**

## OPERATIONAL PROCEDURES

**NO FOOD OR DRINK PERMITTED NEAR EXPERIMENTS.**

1. **Set the Bernoulli's apparatus on the hydraulic bench.**
2. **Start the pump in the bench and establish the flow through the Bernoulli's apparatus.**
3. **Record the water level in the manometers.**
4. **Use a stop watch to find the time to collect 5 L volume of water in the hydraulic bench. Calculate the flow rate over the weir.**

## HOUSEKEEPING

1. **Turn off all equipment once experiment is completed and dispose of chemicals in proper receptacles on completion. Leave equipment and working area in a safe, clean and tidy state.**
2. **Keep all walkways and aisles free of clutter and debris.**

## POTENTIAL HAZARDS

- **Chemical exposure on skin**
- **Noise**
- **Eye injuries**
- **Electrical shock**
- **Manual handling**
- **Broken glass**

**Date of last review** _____ **Signature** _____