CM3215 Laboratory: Feedback
16 April 2012

Laboratory 1: Differential Pressure Meter Calibration

color change - ? - is manometer fluid same
hard pump leaking; leaky connection
add cut off valve
Instruct how to use ~~DP~~ manometer

Laboratory 2: Viscosity Concentration Dependence

more tanks
Excel exercise - ask why would want to do this
no pantin - hard to finish

Laboratory 3: Rotameter Calibration

- Orifice meter - inaccurate - clean screens regularly
- why stetin / run dirty
- why orifice meter at all

Laboratory 4: Control Valve Trim

easy
ladder rule? - ok w/ them

Laboratory 5: Friction in Pipes

- inaccuracy
- longer pipe - get more accurate
- add smaller pipe #s
- improve accuracy of calib of DP meter
- buy Bordon gauges with finer reading scale

Laboratory 6: Lossy Pump Characteristic Curves

Successful

Laboratory 7: Heat Exchanger Overall *U* Measurement

- short on time
- some buckets ~~mixing~~ leaking
- thermo no not working
- bal on station 2 would untare
- hose after steam trap change to pipe?

Laboratory 8: Sphere *h* Measurement

- fill buckets on bench for ease of operation + avoid spilling

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Laboratory 1: Differential Pressure Meter Calibration

- baby need to be checked, leakage of air
  hand pump

Laboratory 2: Viscosity Concentration Dependence

- more tanks
- explain purpose of graphs

Laboratory 3: Rotameter Calibration

- look into orifice meter
  - clean screens regularly

Laboratory 4: Control Valve Trim

Laboratory 5: Friction in Pipes

- longer pipes for better accuracy
- smaller diameter pipes than 1/4"
- more accurate guages

Laboratory 6: Lossy Pump Characteristic Curves

Laboratory 7: Heat Exchanger Overall *U* Measurement

- Short on time
- leaky buckets
- change hose to pipe
- fill buckets on bench

Laboratory 8: Sphere *h* Measurement

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Laboratory 1: Differential Pressure Meter Calibration

Leaky connection, maybe add cut off valve, training ~~using~~ millimeter ~~diameter~~ ruler
Hand pump does not work right

Laboratory 2: Viscosity Concentration Dependence

~~Hand pump does not work right~~
Small lab need more tanks of water, learning how to read the data, excel exercise ask why ~~on homework~~, go over more, need to use slope of lines, you wanna do the plot.

Laboratory 3: Rotameter Calibration

The orfuss maybe rusted, if liquid is brown it can clog up and send the pump to its maxium psi. clean orfuss screans before each lab.
Computer to control to turn valves on and off, to control the flowrate.

Laboratory 4: Control Valve Trim

~~Would [illegible] computer control to turn valves on and off and vary the flowrate~~

Laboratory 5: Friction in Pipes

Measurments are inaqurate, wont trust anything under 5 psi, want lab to be in hernatly safe, longer pipe, possibly add more copper pipes, so will not only have one.
Buy more guages with finer reading scale.

Laboratory 6: Lossy Pump Characteristic Curves

~~[illegible]~~

Laboratory 7: Heat Exchanger Overall *U* Measurement

Therometer not working, and buckets leaking, spilling things when moving the hose, should change to pipe. fill buckets on the bench.

Laboratory 8: Sphere *h* Measurement

to write it down the process you use.

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Laboratory 1: Differential Pressure Meter Calibration

Issues with water pressure in pressure tabs, throw our data off.

Laboratory 2: Viscosity Concentration Dependence

More Tanks

Laboratory 3: Rotameter Calibration

Laboratory 4: Control Valve Trim

Laboratory 5: Friction in Pipes

Pressure Tabs leaks

More structure / more instruction on what good data looks like

Laboratory 6: Lossy Pump Characteristic Curves

Laboratory 7: Heat Exchanger Overall *U* Measurement

Station 2 steam was malfunctioning

Laboratory 8: Sphere *h* Measurement

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Laboratory 1: Differential Pressure Meter Calibration

- Hand pump leaks
- maybe add a cut-off valve

Laboratory 2: Viscosity Concentration Dependence

- more training with multimeter
- more tanks of water

Laboratory 3: Rotameter Calibration

- Clean orifice meter screens more/they're inaccurate
- why does station 1 run dirty?
- why orifice meters at all

Laboratory 4: Control Valve Trim

- Explain how to read valve gauge more.

Laboratory 5: Friction in Pipes

- DP meter can only really measure pressure drops of about 1psi, which makes measurements inaccurate.
- maybe get a smaller sized pipe for more accurate data.

Laboratory 6: Lossy Pump Characteristic Curves / calc of system curve

- Buy Bourdon gauges with a finer gauge

Laboratory 7: Heat Exchanger Overall *U* Measurement

- Time constants
- Broken thermometers / Equipment leaking

Laboratory 8: Sphere *h* Measurement

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Laboratory 1: Differential Pressure Meter Calibration

Good

Laboratory 2: Viscosity Concentration Dependence

- More Tanks
- More Time

Laboratory 3: Rotameter Calibration

Good

Laboratory 4: Control Valve Trim

Good

Laboratory 5: Friction in Pipes

Bourdon Gages that have a smaller scale of measurement between increments.

Laboratory 6: Lossy Pump Characteristic Curves

Good

Laboratory 7: Heat Exchanger Overall *U* Measurement

- Not enough time
- Thermometer's need to be checked.

Laboratory 8: Sphere *h* Measurement

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Laboratory 1: Differential Pressure Meter Calibration

- HAND PUMPS LEAK WHEN PUMPING MANOMETER (2nd VALVE?) & CUT OFF VALVE

Laboratory 2: Viscosity Concentration Dependence

- MORE TANKS
- HARD TO FINISH (NOT ENOUGH OF TIME)

Laboratory 3: Rotameter Calibration

- CLEANING SCREENS OF ORIFICES REGULARLY.
- WHY ORIFICE METERS? - MAKE ORIFICE METERS DETACHABLE?

Laboratory 4: Control Valve Trim

Laboratory 5: Friction in Pipes

- LONGER PIPE?
- ADD SMALLER PIPE SO WE DON'T TEST ONLY ONE

Laboratory 6: Lossy Pump Characteristic Curves

Laboratory 7: Heat Exchanger Overall U Measurement

CHANGE STEAM TRAP TUBES FOR PIPES

Laboratory 8: Sphere h Measurement