THE UNIVERSITY OF MELBOURNE
ENGR30002 FLUID MECHANICS

EXPERIMENT 1: FLUID FLOW IN A SMOOTH PIPE

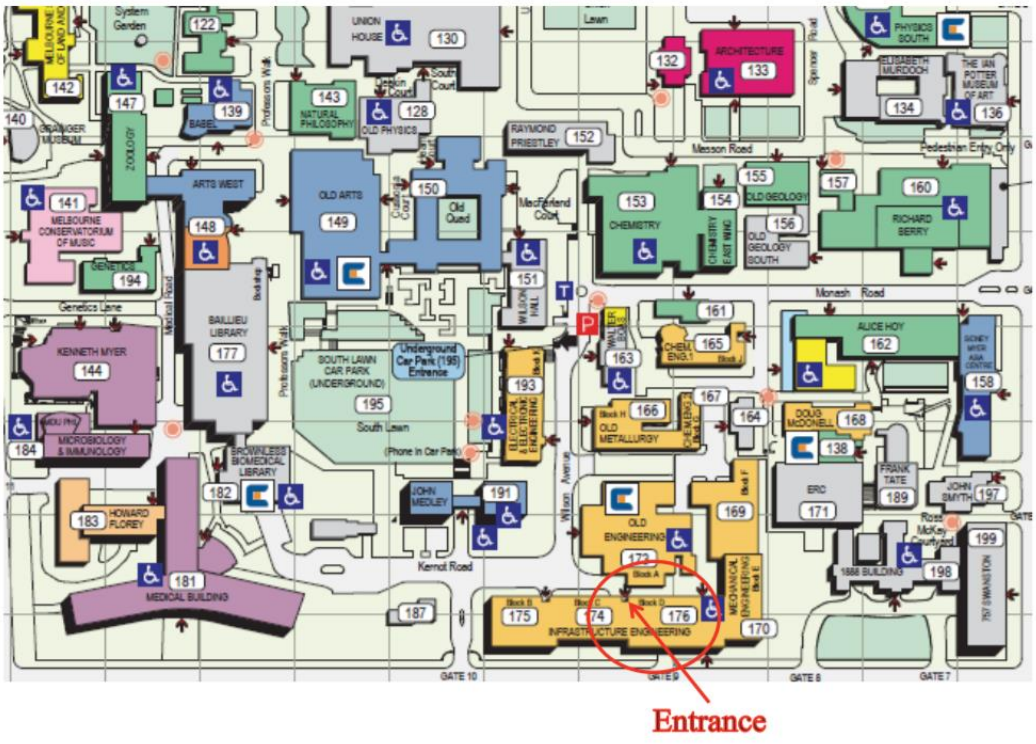
Timetable

- One 20-min pre-lab presentation before the actual lab session
- One 2-hr laboratory session in the Undergraduate Wet Lab (Engineering D-BM09C)
    - Not allowed in if 20 minutes late or more
    - - Only excuse for not turning up is medical related issues (a medical certificate is required)

What to Bring to the Lab

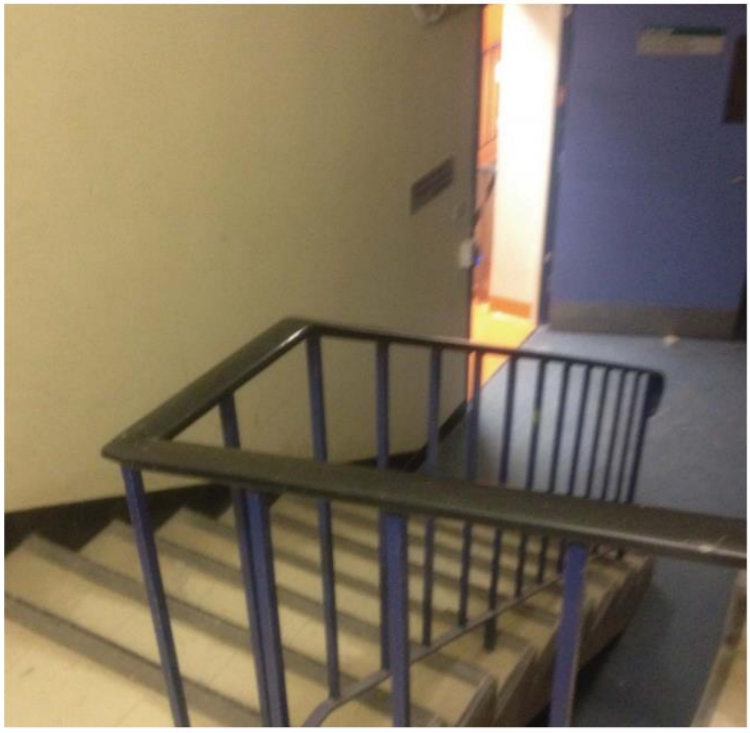
- Copy of the lab instructions (on LMS)
- Safety Glasses - compulsory
- Pencil, paper/note pad, USB drive, and calculator
- Question sheet for this experiment is included at the end of the lab instructions

How to Get to the Lab



Walk in.

Access through to Wet Lab.



All the way down to Mezzanine Level

WAIT HERE.

Safety

- Safety glasses and long-sleeve & long-leg clothing (or lab coats) are compulsory
    - Do NOT take your safety glasses off while in the lab – You can buy safety glasses and lab coats from the Chemistry Store in the Chemistry building
- Footwear must completely cover feet
- No smoking, drinking, or eating in lab
- No sitting on table or floor
- Let the demonstrator know if you need to leave the lab
- Good house-keeping is essential
    - Keep table/work area tidy, notes and other items away from chemicals
    - Handle chemicals and equipment with care
- Let demonstrator know if you need to leave the lab
- Follow the lab supervisor's instruction in case of emergency evacuation
- Read your instructions and understand what needs to be done during the experiment
- Ask questions if you are unsure of anything during the practical session

Lab Report Format

One short report per student (submitted through LMS) – very brief, typically up to 8 pages

Each report will consist of:

- Abstract
- Aim/s
- Answers to questions in the lab instructions, including
    - Schematic/Flow diagram
    - Sample calculations
- Conclusions
- Appendices:
    - All raw data taken during experiment (DO NOT REWRITE your raw data)
    - Excel spreadsheet of results
    - More involved calculations not required in main part of report
- Reports must be your own work
- Zero-tolerance approach to collusion (copying) and plagiarism

Abstract

- Summary of the experiment: what was done and what was found, i.e. the main results obtained and brief conclusion (not a description of the method used)
- Not more than 100 words

Aim/s

- What you are trying to achieve in the experiment and report (2 – 3 lines)

Answer all questions in the lab instructions

- Schematic diagram – To represent important equipment items and flow (and its direction)
  Technical drawing (no 3-D or perspective)
  Use straight lines to represent flows
  Horizontal and vertical lines only
  Show directions of flow
  Use standard symbols to represent equipment
  Other non-standard symbols – use boxes with labels
  Label diagram with figure caption

- Graphs – To be computer generated using Excel
  Data points should be clear and legible (i.e. not too small)
  Use different symbols for different sets of data on the same graph
  Draw lines/curves of best fit - do not join data points
  Label each axis clearly and with units
  Give figure caption to the graph

Conclusions

- The main findings of the experiment (3 – 4 lines)

Assessment

- Pre-Lab Presentation – 5% of total subject mark
- Lab Report – 5% of total subject mark