

# Lab Notebooks and Reports for PHYS 375

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1. Front of notebook
  - name
  - course section
2. Inside front cover
  - table of contents with page numbers
3. For each experiment
  - title on beginning of your dated notes about it.
  - dated records of work
    - use careful, consistent topic headings for your entries.
    - methods/procedure used to make the measurements
    - diagrams of equipment and how it was used
    - notes on experiments tried
    - raw data
    - comments about experimental conditions/ discoveries
    - names of data files where data is stored
    - data analysis
      - plots of data
      - formulae used to extract measured quantities
      - uncertainty analysis
        - sources of error
        - methods of error assignment
        - uncertainty propagation
        - systematic vs. statistical
    - measurements
      - data tables or file names with descriptions
      - comments about experimental conditions/ discoveries
4. For each experiment Report section of notebook (dated summary of work with conclusions). It should only be 2 to 3 pages long.
  - title of experiment
  - Using the topic headers from 3. above, name each topic as a report section and in that section discuss the results on that topic
    - final results with uncertainty
    - identification of predominant source of uncertainty
    - discussion of ways to improve measurement
    - discussion of other possible measurements
    - discussion of any particular difficulty with the measurements
  - If there was more than one method to make the measurement, make a report section where you compare the accuracy and precision of the methods.