THE WEEKLY PHYSICS LABORATORY REPORT
(to be handed no later than 48 hours after the lab)

The laboratory report is a record of the experiments performed and the results derived from the experiments. It serves to confirm the experiment and techniques used and the date when the experiment was performed. It serves as a document for precedence such as a patent application or a challenge to the data. All major university, government and industrial institutions require that such a record be kept of all the experiments performed in their laboratories.

In writing your Laboratory Reports you are to follow the instructions in this handbook, although you should refer to the 250 Series Laboratory Manual. We are working on a new version of the Manual, where there are conflicts, this document supersedes the Manual, if in doubt ask, ingram@ohio.edu.

One of the purposes of a laboratory course in physics is to train students in the analysis of acquired data and its recording and subsequent presentation. During each experiment your observations, any notes, and the data should be recorded in ink on the left-hand page of a bound laboratory notebook and be dated. The first page of the laboratory notebook should contain the course title and the second page a table of contents (built as experiments are entered). After the conclusion of each experiment a laboratory report should be written in the same notebook on the right-hand page in ink according to the following format:

LABORATORY (NUMBER)
TITLE OF LABORATORY

I. Introduction

This section should include a brief presentation - **IN YOUR WORDS** - of the purpose of the experiment and the physical relationships explored. Physical Laws and their equations appropriate to the experiments, with a sentence or two introducing them, their use, and definition of symbols, must be included.

II. Experimental Method (or Procedure)

A. A list of the materials and apparatus used in the experiment is recorded in this section. Be sure to include equipment serial numbers or other special identifiers when appropriate.

B. A step-by-step outline of the procedure followed.

III. Data

Data acquired during the course of the experiment should be recorded in a neat and concise fashion. Use blocked tabular form whenever possible and always identify any symbols used. Remember that units must always be included with any data recorded. For tables units should be
included at the head of each column. A DATA TABLE MUST HAVE A CONCISE HEADING DESCRIBING THE DATA. GRAPHS SHOULD FOLLOW THE FORMAT GIVEN IN THE "GRAPHING AS A TOOL" WRITE-UP.

IV. Results

Computations based on the acquired data are entered in this section. One sample calculation, sufficient to demonstrate the method used, should be given for each type of computation. The results should be recorded in a neat manner with the proper units included.

V. Discussion and Conclusion

Comparisons of experimental results to known or theoretical values are presented in this section. Sources of systematic errors should be reported and any unusually large random error discussed. Criticisms or comments (favorable or unfavorable) concerning the nature of the experiment or the condition of the apparatus also may be included.

Finally, any questions posed in the laboratory manual should be answered after this section under the heading Questions.