

Modern Physics Laboratory Syllabus – Fall 2010

The mission of Abilene Christian University is to educate students
for Christian service and leadership throughout the world.

Contact Information:

Dr. Michael Daugherty

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Lab Assistant: Tyler Hague, tjh07a@acu.edu

Course Information:

PHYS 231L1 – Modern Physics Laboratory, T 1:30-4:30, FSB 319

PHYS 231L2 – Modern Physics Laboratory, W 2-5, FSB 319

A laboratory notebook is required for this class. Every student must turn in their own notebook. The following information is required for each lab:

- **abstract** – A one-sentence summary of the lab
- **method** – A paragraph explaining the experimental method (what are you measuring and how are you measuring it?)
- **apparatus** – One or more sketches and diagrams showing the setup and layout of equipment. Include enough detail so that someone could easily reproduce the setup from your descriptions alone
- **analysis** – Include a table of data (if it is reasonably short) and all calculations, graphs, etc. If you use a program such as a spreadsheet, ROOT, etc. print your results and glue or tape them in your notebook
- **errors** – Discuss sources of statistical and systematic errors.

Propagate errors to determine the final error bars on your result.

You should fill out your notebook as you are doing the lab. The lab assistant will collect notebooks for grading every 2-3 weeks, and you will receive a zero for each unfinished lab.

Since there is limited equipment students will work together in one or two groups to take data, but each student is responsible for their own analysis. We will discuss options such as staggering starting times in the first week.

One formal lab report is required this semester. You may use any lab of your choice for the formal report, obviously choosing a lab earlier in the semester gives you more time to write. More detailed requirements will be given later. The formal report is due **Monday, December 1st**.

Grading Policy:

Notebook 50 %

Formal Report 50 %