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Laboratory Manual & Schedule

www.nmt.edu/~jaltig/Laboratory.html

Grading

Error Analysis Homework 10% of Grade  
Two assignments covering topics discussed during laboratory lectures.

Laboratory Reports 35% of Grade  
Details provided in a separate handout. Three reports will be due during the course of the semester.

Data Analysis Reports 50% of Grade  
Details provided in a separate handout. A data analysis will be required for laboratory exercises for which a laboratory report is not prepared.

Lab Safety, Proper Disposal of Chemicals and Tidiness 5% of Grade  
All safety rules (separate handout) must be followed, all chemicals must be disposed of properly, and your laboratory workstation must be kept tidy and left clean. At the end of each laboratory session, your laboratory instructor will issue a grade according to how well you are following the appropriate guidelines in this regard.

Notes:
1) Missing more than two laboratory exercises will result in a failing grade for the course.
2) The “late papers” policy will be set by your laboratory teaching assistant. However, no work will be accepted more than two weeks after the due date. And, no work will be accepted after the last laboratory session of the semester.
3) If you are observed abusing a balance, including using an incorrect balance, you will be asked to leave the lab and you will receive a score of zero for that lab exercise.
Bibliography

Listed are two books that deal with error propagation and error analysis as applied to measurements in physics and chemistry. The first is a short introduction to statistical methods and the second is an in depth look at error analysis with most of its examples drawn from experimental physics.

Statistical Treatment of Experimental Data: An Introduction to Statistical Methods
by Hugh D. Young
Waveland Press, Inc.
1996

Data Reduction and Error Analysis for the Physical Sciences; 2nd Ed.
by Philip R. Brevinton & D. Keith Robinson
McGraw-Hill, Inc.
1992

Listed are several published lab manuals that contain considerable information concerning instrument construction, procedures and general techniques for physical chemistry.

Physical Chemistry: Methods, Techniques, Experiments
by Rodney J. Sime
Saunders College Publishing
1998

Experiments in Physical Chemistry
by David P. Shoemaker, Carl W. Garland, Joseph W. Nibler
McGraw-Hill
2008

Experimental Physical Chemistry
by Farrington Daniels and Robert Albery

Experimental Physical Chemistry: A Laboratory Textbook
by Arthur M. Halpern and James H. Reeves
Scott, Foresman and Company
1988