

Chemistry 404
SPRING2004

EXPERIMENTAL PHYSICAL CHEMISTRY

Room No 133 Hunter McDaniel
T(2.00 – 4.50 pm)

Instructor: Urvashi Gangal, Ph.D.
Phone Number: 524-5727
Office hours: M (3.00-5.00)
 R (10.00-12.00)
 F (2.30 – 3.30)
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Course Description

This course provides the student with practical experience involving many physical principles underlying the properties of chemical substances.

Knowledge, Skills, Abilities

Knowledge: Students will know

The general procedures for conducting experiments in the physical chemistry laboratory

The techniques for investigating the phenomenon associated with the physical behavior of the matter

How to illustrate and test some of the theoretical principles studied in a physical chemistry course.

Many of the methods and practical arts necessary to carry out detailed research useful in explaining physical phenomena

How to collect and organize data

Evaluation of all above: The assessment of laboratory notebooks.

Skills- the students will demonstrate:

The capability to utilize the principles of important experimental methods.

The capacity to utilize statistical and other mathematical techniques in solving problems

The ability to evaluate and properly utilize the experimental data

Evaluation (all above) – The assessment of laboratory notebooks.

Abilities- Students will be able to:

Perform meaningful experiments utilizing the equipment found in the chemistry laboratory with minimum onsite orientation.

Interpret and evaluate data obtained during the completion of assigned experiments.

Apply statistical methods in the evaluation of scientific data.

Draw appropriate conclusions based on the analysis of data collected in the laboratory

Display a thorough understanding of experimental foundations on which the theoretical principles are based.

Evaluation (All above): The assessment of laboratory notebooks.

Course activities

Seminar: A Student for every experiment will give a brief technical talk explaining the principle, chemistry, calculation and procedure for the experiment. The name of the student and the topic will be given on blackboard one week prior to the seminar date.

Student evaluation- the students will be evaluated as follows:

1. Seminar20%
2. Completion of experiment and write up.....50%
3. Midterm..... 10 %
4. Final20

Grading (Scale): The Grading scale is in accord with “University Policies” (see attached)

Classroom procedures and attendance

1. Eye protection is mandatory at all times.
2. Students are required to independently complete all scheduled experiments otherwise instructed.
3. Experimental areas are to be kept clean at all times so that contamination is kept to a minimum.
4. Attendance is essential.

Bibliography:

Textbook: Experiments in Physical Chemistry, 7 th ed., By Shoemaker et al., McGraw-Hill Inc., 1996.

General Information:

This course is governed by university policies and procedures (see attached)

Students are covered under American D disability act should privately inform the teacher of this fact so that appropriate instructional arrangements can be made.