FAIRLEIGH DICKINSON UNIVERSITY
TEANECK CAMPUS

PHYSICAL CHEMISTRY II
(LABORATORY – SPRING 2004)

Instructor: Dr. Arthur R. Murphy Office: DH 4456
Office Hours: M W F 11:00 AM to Noon and by appointment
e-mail arthur_murphy@fdu.edu
Phone: (201)-692-2322
Day: Wednesday
Time: 5:25 PM – 8:50 PM
Rooms: Computer Lab 2nd floor Dickinson Hall,
Physical Chemistry Lab (fifth floor DH)
Some experiments in Physics Lab.Becton Hall (Teaneck) and
computer lab (Room TBA)

Required text: None

Catalog Description: Physical Chemistry Laboratory II.: Laboratory experiments demonstrating fundamental laws, concepts and mathematically derived relationships involving selected physico-chemical properties of matter and energy. Corequisites: CHEM3242 Physical Chemistry II.

Introduction:
The Physical Chemistry II laboratory experiments are chosen so as to reinforce, augment, and amplify the material that is discussed in the Physical Chemistry II lecture course. Experiments involving the thermodynamics of solutions, phase equilibrium, quantum chemistry, spectroscopy, kinetics, electrochemistry will be explored.

Expectations:
1) Late Lab reports will not be accepted. Usually, lab reports are usually due two weeks after an experiment is concluded. Exceptions to this rule will be stated in due course.
2) All safety procedures must be followed exactly. Details regarding safety will be discussed during the first lab period. Note that no student will be permitted into laboratories wearing shorts, halter-tops, open toed sandals, undershirts, tank tops or any other inappropriate attire. All students must purchase a white laboratory coat which can be used for any Biology or Chemistry class which requires a lab. This rule applies to non-majors or majors.
3) In addition to performing the experiments, students will be expected to become proficient in the use of scientific software packages such as Mathcad and/or MatLab, as well as molecular modeling software.

TENTATIVE LABORATORY SCHEDULE

<table>
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<tr>
<th>Week #</th>
<th>Date</th>
<th>Experiment</th>
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<tbody>
<tr>
<td>1</td>
<td>Jan. 28</td>
<td>Introduction to the Experiments.</td>
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<tr>
<td>2</td>
<td>Feb. 4</td>
<td>Partial Molar Volume</td>
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Grading Policy: Lab Reports - 100%.
The lab reports will be graded on the basis of neatness, thoroughness, adherence to the required lab report format, and the accuracy of the experimental results. Late assignments will not be accepted.

Outcomes assessment:

Students who have successfully completed this course should have reinforced their knowledge of the material covered in the Physical Chemistry II lecture course. Specifically, students should have an understanding of the behavior of both ideal and non-ideal solutions, of the application of quantum chemistry to both molecular structure and spectroscopy, of introductory kinetics and electrochemistry.