

**PHYSICAL CHEMISTRY II LABORATORY***Spring 2017*

Instructor: Professor Christopher Dares ([cdares@fiu.edu](mailto:cdares@fiu.edu))

Schedule: MW 2:00 pm – 4:50 pm; in CP375

Office: CP338A

Office Hours: TR 11:00 – 12:00 pm, or email for an appointment

Textbook: “Experiments in Physical Chemistry” 7<sup>th</sup> or 8<sup>th</sup> Ed., by D.P. Shoemaker, C.W. Garland, and J. W. Nibler (New York: McGraw Hill, 2009 – ISBN 978-0-07-282842-9)

Course Website: [faculty.fiu.edu/~cdares/teaching.html](http://faculty.fiu.edu/~cdares/teaching.html)

**CO-REQUISITES**

CHM3411 (Physical Chemistry), and CHM3120 (Quantitative Analysis).

**SCHEDULE (CHANGES MAY OCCUR)**

Date	Topic
Jan 9	Syllabus Discussion
Jan 18	Discussion of the first set of experiments
Jan 23 – Feb 15	Lattice Energy of Ar Viscosity of Polymer Solutions Bromination of Acetone Mutorotation of Glucose
Feb 20	Discussion of the second set of experiments
Feb 27 – Mar 29	Absorption Spectra of Conjugated Dyes Absorption Spectrum of Iodine Infrared Spectrum of HCl Computational Modeling of diatomics

**Important Dates:** 01/17 – last day to early drop; 03/20 – last day to late drop

**GRADING**

There will be eight experiments performed this semester. For each experiment you will turn in a lab report. Your grade in the class will be the average grade earned on the lab reports. A sample lab report can be found in the text.

Three factors are important in the lab reports: completeness of the error analysis, quality of the discussion, and quality of the data. A lab report should include all of the following sections: Abstract, Introduction, Methods, and Discussion. In the Methods section, there is no need to repeat a description in the text; it is sufficient to cite the text in a footnote. Each experiment in the text has sections entitled Calculations and Discussion. You should perform all calculations described in the Calculations section unless otherwise instructed. Your Discussion section should address (but not be limited to) all questions

suggested in the text's Discussion section unless otherwise instructed. If you have questions regarding matters for calculation or discussion, see the instructor. You are encouraged to discuss the lab and perform calculations with your partners, but **all reports must be written independently**.

The grading criteria for lab reports are:

- A. Clear, complete, and correct results, error analysis, and answers to all Discussion questions; clarity in writing.
- B. Minor errors in calculations and error analysis, confusion with some Discussion questions.
- C. Major errors in calculations, incomplete error analysis, incomplete Discussion.
- D. Confused approach, missing error analysis, missing or trivial Discussion.
- F. Completely inadequate.

#### COURSE EXPECTATIONS

- 1) You are expected to purchase a bound notebook for recording experimental data, and to record all such data directly into your notebook. Notebooks will be reviewed periodically. This will make up a portion of your grade on the laboratory experiments.
- 2) Late assignments will be penalized up to one letter grade per week or fraction of a week late. It is therefore important to turn in your work in a timely manner. You must turn in all of the lab reports to pass the class.
- 3) Excused absences from the laboratory experiments will be by permission of the instructor only. If you are forced to miss a laboratory experiment, you are expected to notify me in a timely manner.
- 4) While you will work on the most of the experiments with one or more partners, all lab reports must be written independently. You are encouraged to discuss the experiment and calculations with your lab partner(s) and with the lab instructor.
- 5) Cheating or assisting other students in cheating is a violation of University policy and will be punished. For further information please refer to the University Code of Academic Conduct.
- 6) You are expected to retain all graded assignments for your records until after final course grades have been given.
- 7) As per University policy, a grade of incomplete will only be given "...for work not completed because of serious interruption not caused by the student's own negligence." An incomplete will only be given after consultation with me and a written agreement outlining the reason for the incomplete and a timetable for making up the missing work.

#### HONOR CODE

The Honor Code is the cornerstone of academic integrity at FIU. Students are expected to uphold and abide by the Honor Code. **All suspected Honor Code violations will be reported promptly. No collaboration is permitted on graded work** because these assignments will be used to determine academic progress. When collaboration is permitted an explicit statement encouraging teamwork will be made. As discussed elsewhere in the syllabus, studying in groups is encouraged; however, graded assignments must be your own independent work.

#### HOW TO SUCCEED IN THIS COURSE

- **Come to class prepared.** This is a no-brainer. Read the assigned textbook chapters or handouts beforehand.
- **Get help early.** If you are having problems with the material, seek help early in the semester. Halfway through the course is way too late.