

C-363 Physical Chemistry Lab

Course Overview/Requirements

This course will encompass a broad range of physical, analytical, instrumental and mechanistic formalism associated with experimental manipulation of molecules. Experimental emphasis will be applied through kinetic, thermodynamic, and physical properties and are run in tandem with your colleagues in a round-robin fashion. A laboratory notebook will be required and preliminary steps must be written down in your notebook before the beginning of lab (Calculations, stoichiometry, buffer preparation, etc.). Being prepared for each laboratory experiment is crucial to your understanding of the material and precision throughout the experiment.

Email

Any questions you may have can be addressed only through your Indiana Northwest email. When emailing please *Do not forget simple rules of etiquette*. Unlike personal emails, professional emails require proper communication. Please utilize proper English; abbreviating standard English words is not appropriate in a professional email. Abbreviations such as “ur” and “2night” are not acceptable.

Academic Integrity

Indiana University Northwest takes very seriously Academic Integrity and has outlined a code of student conduct, see: (Code of Student Rights, Responsibilities, and conduct) Academic integrity requires that “all academic work be wholly the product of an identified individual or individuals.” Academic misconducts include: cheating, fabrication, facilitating academic dishonesty, denying others access to information or material, and plagiarism. Students are expected to conduct complete honesty in the completion of tests, assignments, and any other course work including extra credit. If any student is found to be cheating or plagiarizing, a grade of “F” will be awarded for the assignment in question and possibly the course. Cheating is the actual or attempted practice of fraudulent or deceptive acts to gain an unfair advantage in a grade, whether for yourself or for another student. Cheating includes transmitting or receiving by any and all means information about examination questions. During examinations, students will not be allowed to use or have turned on electronic devices (including cell- phones, iPods, calculators, etc). If I believe you have or are using such a device I will immediately confiscate your exam.

Accommodations for Students with Disabilities

Indiana University Northwest is committed to full and equitable access for all enrolled students. If you are a student with a disability and wish to request accommodations, please notify the instructor by the second week of class. Instructors are asked to make reasonable accommodations upon request by the student or the University for such Disabilities. It is the responsibility of the student to contact the University's Disability Service Coordinator so that the case will be dealt with on a timely manner.

Athletes

Athletic competitions at times can and do interfere with your attendance to class on exam dates or worksheet due dates. It is your responsibility to provide proper documentation from your athletic advisor and make arrangements with me prior to the scheduled absence. Failure to do this will result in an unexcused absence resulting in a zero on assigned worksheets or exams.

LAB REPORT

- ***Due 1 week after the completion of the experiment***
- ***If you start the next experiment without turning in your lab report it will be considered late.***
- ***10 % deduction per day***
- ***1 week late will result in a 0.***

1. Abstract: Overview of experiment, sell your chemistry. 5 pts

- 4-5 sentences
2. Introduction: Talk about the experiment and its applications. 10 pts
 - Give a brief 1-2 sentence history
 - Why is this experiment important
 - What is this experiment utilized for and why
 - Are there any better methods
 - 2-3 paragraphs
 3. Results and Discussion. 60 pts
 - Explain your results
 - Show all of your data
 - Graphs
 - Tables
 - Figures
 - Schemes
 4. Experimental. 10 pts
 - Report any instrument used
 - Type of instrument
 - Name of instrument
 - Report any chemical used (even the DI water) and provide the chemical supplier
 - Scientifically written procedures of the experiment performed
 5. Conclusion. 10 pts
 - A summary of the experiment
 - Re-express the importance of the experiment
 - 2-3 paragraphs
 6. References. 5 pts
 - ACS format

Grading

- Lab technique: 10%
 - The ability to work safely, efficiently, and diligently.
 - Keep area clean
 - **Balances**
 - Work Space
- Lab Report: 90%

Your course grade will be based on the following grade cutoffs. Scores are first analyzed on the point scale and then converted to a percent. **There is no curve in this course.** The following is the approved grading scale for the course:

A+: 97-100 %	B+: 87-89 %	C+: 77-79 %	D+: 67-69 %	F: 0-59 %
A : 93-96 %	B : 83-86 %	C : 73-76 %	D : 63-66 %	
A- : 90-92 %	B- : 80-82 %	C- : 70-72 %	D- : 60-62 %	

Fall 2015 Schedule (Tentative)

Week	Experiment
August 28th	Introduction to Lab
September 11th	Experiment 1: Cyclic Voltammetry
September 18th	Experiment 1: Cyclic Voltammetry
September 25th	Experiment 2: Kinetics of Enzymatic Hydrolysis utilizing UV-Vis
October 2nd	Experiment 2: Kinetics of Enzymatic Hydrolysis utilizing UV-Vis
October 9th	Experiment 3: Fluorescence Spectroscopy of Quinine
October 16th	Experiment 3: Fluorescence Spectroscopy of Quinine
October 23rd	Experiment 4: UV-Vis Determination of Beer's Law
October 30th	Experiment 4: UV-Vis Determination of Beer's Law
November 6th	Experiment 5: Bomb Calorimetry
November 13th	Experiment 5: Bomb Calorimetry
November 20th	Experiment 6: Computational Analysis of a Diastereoselective Reduction
November 27th	No Class (Fall Break)
December 4th	Experiment 6: Computational Analysis of a Diastereoselective Reduction

Campus support office

Student Support Services, HH 29, (219) 980-6798

Student Support Services <http://www.iun.edu/student-support/>