



Fall 2019

CHEM-C 121 Elementary Chemistry I Lab

Merrillville High School

Credits	C121: 2 cr	College of Arts and Sciences Education CASE	Natural & Mathematical Sciences N&M
Instructor	Mrs. Ruane	Office	F210
Email	mruane@mvs.c.k12.in.us	Office Hours	
Meeting Times	When your course meets	Meeting Location	F210
Prerequisite(s)	High school algebra	Lab fees	
Course Description	Introduction to the techniques and reasoning of experimental chemistry. Emphasis is given to study of physical and chemical properties of inorganic compounds. Credit given for only one of C101-C121 or C103.		
Core Transfer Library Course	Elementary General Chemistry w/Lab (with C101)		
Important Deadlines	Registration: Monday, September 16 - Friday, September 27, 2019 Drop date: Friday September 27, 2019 Withdrawal Date: Friday April 17, 2020 or two weeks before the final exam (must be passing)		
Textbook Title & Author	Introductory Chemistry: Atoms First, 5th Edition, By Steve Russo, Michael E. Silver, 2015		
Course Materials	Scientific calculator, non-programmable Laboratory goggles		
Course Overview	<p>This course emphasizes the comprehension of basic chemistry concepts by introducing material within the context of how and why it was developed. It will focus on applications of basic chemical principles and problem solving strategies via hands-on laboratories. The goal of this course is to help students make sense of chemistry by promoting comprehension, problem solving, and critical thinking.</p> <p>If you wish to succeed in this class, you must put in the effort—determine what you do not understand, and seek out help. Chemistry is based on both understanding and problem solving, and a great deal of practice is required to master the subject. If you are not obtaining the results you desire, consider completing more practice problems or seek help in another way that will lead to improvement. Please remember that you are ultimately responsible for your own success.</p>		
Learning Objectives	Students who successfully complete C121 will be able to demonstrate <ol style="list-style-type: none"> 1. the ability to collect and interpret data, think critically, and conduct theoretically based inquiry; 		

	2. the ability to solve problems; and 3. analytical and quantitative skills.																						
How IU Grade will be Calculated	You will be graded on a straight-scale based on the assignments below. However, the scale is subject to change at the instructor's discretion																						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><i>Lecture Assignments</i></th> <th style="text-align: center;"><i>Points</i></th> <th style="text-align: center;"><i>% of grade</i></th> </tr> </thead> <tbody> <tr> <td>Exams, midterm and final (2 @ 40 points)</td> <td style="text-align: center;">80</td> <td style="text-align: center;">13.3%</td> </tr> <tr> <td>Lecture Participation (90% answered for full pts)</td> <td style="text-align: center;">60</td> <td style="text-align: center;">10%</td> </tr> <tr> <td>Pre-lab Quiz (12@ 5 pts, drop 2 lowest)</td> <td style="text-align: center;">55</td> <td style="text-align: center;">9.2%</td> </tr> <tr> <td>Lab Reports (12 @ 35 points, drop 2 lowest)</td> <td style="text-align: center;">385</td> <td style="text-align: center;">64.2%</td> </tr> <tr> <td>Excel/Word Assignment</td> <td style="text-align: center;">20</td> <td style="text-align: center;">3.3%</td> </tr> <tr> <td><i>Course Total</i></td> <td style="text-align: center;"><i>600</i></td> <td style="text-align: center;"><i>100%</i></td> </tr> </tbody> </table>		<i>Lecture Assignments</i>	<i>Points</i>	<i>% of grade</i>	Exams, midterm and final (2 @ 40 points)	80	13.3%	Lecture Participation (90% answered for full pts)	60	10%	Pre-lab Quiz (12@ 5 pts, drop 2 lowest)	55	9.2%	Lab Reports (12 @ 35 points, drop 2 lowest)	385	64.2%	Excel/Word Assignment	20	3.3%	<i>Course Total</i>	<i>600</i>	<i>100%</i>
	<i>Lecture Assignments</i>	<i>Points</i>	<i>% of grade</i>																				
	Exams, midterm and final (2 @ 40 points)	80	13.3%																				
	Lecture Participation (90% answered for full pts)	60	10%																				
	Pre-lab Quiz (12@ 5 pts, drop 2 lowest)	55	9.2%																				
	Lab Reports (12 @ 35 points, drop 2 lowest)	385	64.2%																				
Excel/Word Assignment	20	3.3%																					
<i>Course Total</i>	<i>600</i>	<i>100%</i>																					
IU Grading Scale	A+: 98-100%	C+: 77-79.9%																					
	A: 93-97.9%	C: 73-76.9%																					
	A-: 90-92.9%	C-: 70-72.9%																					
	B+: 87-89.9%	D+: 67-69.9%																					
	B: 83-86.9%	D: 63-66.9%																					
	B-: 80-82.9%	D-: 60-62.9%																					
How High School Grade will be Calculated. You high school grade is calculated per trimester. This will include your lab and lecture grade.	Exams (including lab)	30%																					
	Quizzes drop 2 lowest)	20%																					
	Lab activities Formal lab writeups	20%																					
	Homework (worksheets)	10%																					
	Final Exam	20%																					
	COURSE TOTAL	100%																					
High School Grading Scale	Grading Scale: A = 90% B = 80% C = 70% D = 60% F = 59% or below																						

**Course
Format**

Pre-Lab Quiz

In order to ensure you are getting the most out of your time in laboratory and in lab lecture, you will take a pre-lab quiz. You can have your lab manual open during the quiz, however due to the 15 minute time limit, it is recommended that you read through the lab manual prior to taking the quiz. Your lowest quiz score will be dropped.

Examinations

Exams will be a combination of both multiple choice and open-essay, with a heavier emphasis on multiple-choice. This way you can be graded quickly on some simpler things that do not need hand grading, and then awarded partial credit where you might go wrong on larger problems.

There will be **TWO LABORATORY EXAMINATIONS**, each worth 40 points. The midterm exam will cover the first 6 labs of the semester and the final exam will cover the last 6 labs of the semester. Each examination will be designed to test your knowledge and understanding of the material covered in the lecture prior to that examination.

Laboratory

In the laboratory, you will have the opportunity to experience directly some of the relationships discussed in the lecture and textbook. You will also practice basic laboratory techniques and will be given the opportunity for hands-on exploration of basic chemical principles. The laboratory is extremely important in gaining an understanding and appreciation of chemistry, and hence lab reports will account for over 60% of the course grade. **THEREFORE, IF YOU HAVE THREE OR MORE ABSENCES FROM LAB (EITHER FROM NON-ATTENDANCE OR SIMPLY NOT TURNING IN A LAB REPORT EVEN THOUGH THE LAB WORK WAS COMPLETED) YOU WILL AUTOMATICALLY EARN A GRADE OF F FOR C121 REGARDLESS OF THE POINT TOTAL YOU OBTAIN IN THE COURSE.**

Each lab report will be due at the beginning of the following week.. This gives you time to complete your lab report. Each lab report is worth 35 points and contains two parts: tear-out pages from the lab manual (20 pts) and a typed conclusion (15 pts). You need to turn in a hard-copy of the summary stapled to your tear-out pages. Summaries are required to be typed double spaced with 12 pt Arial (or equivalent) font. All **references**, including lab manual, should be written in ACS format in a numbered list on a separate page at the end of the report. Superscript numbers will be used for in-text citation. These numbers correspond to the reference number on the citation page. Make sure that the subject of your summary is not you, but the research being done. Make sure you have clean edges on the tear-out pages and neatly staple the tear-out pages and typed summary together on the top left corner.

Two labs (Tin Oxide and Titration) will count for 70 points total (two lab scores). Instead of answering summary questions for these two labs, you will write a full lab report. Details will be given in lab lecture.

Lab reports will be turned in the following week at the beginning of your class period. Late reports will have 10% off the first day and 50% off thereafter. No lab will be accepted after the week it is due.

If you are sick and cannot make it to lab to turn in a lab report, you **must email me BEFORE lab** to be granted a sick extension. You must provide documentation of being sick (dr. note) and then arrange with me about when and how you will turn in the late report. Do NOT just wait until the next week's lab to turn in a late report.

Schedule is subject to change. Please consult chemmom.weebly.com for calendar.

Schedule of Assignments	Week	Lab Information
	1	Lab quiz Lab: Scientific Method/ soapy water
	2	Pre-lab quiz: Precision sig figs Lab: Precision sig figs Lab due Monday: soapy water
	3	Pre-lab quiz: Density Lab: Density Lab due Monday: Precision sig figs
	4	Pre-lab quiz: Flame test Lab: Flame test Lab due Monday: Density
	5	Lab due Monday: Flame test
	6	Pre-lab quiz: ionic bonding Lab: ionic bonding
	7	Lab due Monday: Ionic Bonding Pre-lab quiz: Lewis Structure Lab: Lewis Structure Due at the end of class
	8	
	9	Pre-lab quiz: Tin Oxide lab Lab: Tin Oxide lab
	10	Pre-lab quiz: Nail Lab Lab: Nail lab Lab due Monday: Full write up - Tin Oxide lab
	11	Lab due Monday: Nail lab

	12	Lab Midterm
	13	Pre-lab quiz: Limiting Reactant Lab: Limiting Reactant
	14	Lab due Monday: Limiting Reactant Pre-lab quiz: Boyles Lab: Boyles
	15	Pre-lab quiz: Molarity Lab: Molarity Lab due Monday: Boyles
	16	Pre-lab quiz: Beer's Law Lab: Beer's Law Lab due Monday: Molarity
	17	Pre-lab quiz: kinetics Lab: kinetics Lab due Monday: Beer's Law
	18	Pre-lab quiz: equilibrium Lab: equilibrium due at the end of class Lab due Monday: kinetics
	19	Pre-lab quiz: Titration Lab: Titration
	20	Lab due Monday: Full write up - Titration
	21	Pre-lab quiz: Redox Lab: Redox Lab due Friday: Redox
	22	Pre-lab quiz: Nuclear decay Lab: Nuclear decay Lab due Friday: Nuclear decay
	23	
	24	Lab Exam
Classroom	No phones or electronic devices may be use in class unless specifically stated by the teacher.	

Policies & Information	Phones will be held until the end of class for the first offense and then will be sent to the office for subsequent offenses.
Attendance Policy	Students are expected to attend all classes and be on time each day. If an absence is unavoidable, the student is expected to notify Mrs. Ruane in person and turn in missed work the first day back from school. You are responsible obtaining and finishing all missing work. You should be bringing home chemistry every day so you can prepare for all work during any absence.
Late Work Policy	10% off for one day late work, then 50% off. No work will be accepted after the week the lab is due.
Make-up/Retake Exam Policy	You must make up your exam the day you get back in class. You are responsible obtaining and finishing all missing work. You should be bringing home chemistry every day so you can prepare for all work during an absence.
Dual Credit-High School Credit Policy Statement	The rigor of this course will be periodically reviewed by Indiana University faculty in an effort to maintain the high quality of education that each student receives. Due to the unique format of this course, students must decide during the IU enrollment period whether they wish to receive dual credit (high school and IU credit) or only high school credit. Students who choose to take the course only for high school credit and receive a passing grade may not register at a later date or repeat the course (while in high school) for college credit.
IU Academic Misconduct Statement	<p>The rights and responsibilities of Indiana University students are explained in the <i>Indiana University Code of Student Rights, Responsibilities, and Conduct</i>, http://www.indiana.edu/~code/. The Code describes the types of misconduct for which students may be penalized, including cheating, fabrication, plagiarism and interference with other students' work, as well as actions which endanger the University and the University community and possession of firearms. The Code also indicates the procedures to be followed in these cases. All students are required to adhere to the responsibilities outlined in the Code</p> <p>The definition and clarification related to academic misconduct is here: http://www.indiana.edu/~code/code/responsibilities/academic/index.shtml</p> <p>Examples of Plagiarism: http://www.indiana.edu/~wts/pamphlets/plagiarism.pdf</p> <p>Per IU policy, ACP instructors are required to investigate and then report all incidents of academic misconduct to the Dean of Students.</p> <p><i>Adopted by the Board of Trustees, effective August 1, 2009</i></p>