General College Chemistry II w/Lab

Course Syllabus

General Course Information

- Course Number and Section: CHE112-151 (CRN33074)
- Lecture Days: Tuesday and Thursday
- Lecture Times: 5:00pm-6:50pm
- Location: CC A-166
- Lab Day: Thursday
- Lab Time: 7:00pm-9:45pm
- Location: CC A-166
- Course Dates: 01/22/2020 to 05/12/2020
- Semester: Spring 2020

Instructor Information

- Instructor: Carlos Diaz, Ph.D.
- Instructor Email: carlos.diaz@ppcc.edu
- Office Hours: By appointment only
- Division Office: F-300

Important Dates

- Drop Date: February 06, 2020
- Spring Break: March 23 to March 29, 2020
- Withdrawal Date: April 20, 2020

Course Description

For a complete list of the course objectives see Part 2: Master Course Syllabus.

Prerequisite Course Requirements

CHE 111(or equivalent), Math 121

Course Materials

- **Textbook**: Chemistry 13th Edition. **Author**: Raymond Chang. **ISBN**: 978-1-259-91115-6. The book is also available in eBook format.
- **Inquiry Lab Manual** – Available on D2L
- **Lab Notebook**: Chemistry Lab Book 100 Page, Hayden McNeil, Binding Spiral with carbonless copies
- **Scientific Calculator** (such as TI-84 or equivalent)
- **Safety Goggles**
- **Optional, but highly recommended, materials:** ACS Exam Official General Chemistry Study Guide

Required Online Resources

D2L

- Can also be accessed through the PPCC Portal
- For D2L access, enter your S number and Password (the same password you use for registration)
- Choose the course: CHE112-151 (151is the section number)

Course Structure

- Instructor Specific Course Guidelines
    - Make sure you have the required math background
        - **Algebra is at the foundation of this class**. The necessary algebraic background can come from either your high school algebra or from the prerequisite: MAT 050 or MAT 090. Depending on your algebra strength you should decide about:
            - staying in the class,
            - looking for additional help to improve your algebra skills
            - withdrawing from the class in order to take/retake an algebra class before enrolling in it again.
    - Show Up: Attend every class.
        - You will find that students, who attend every class, listen to the instructor and take good notes will be more likely to pass with a higher grade than those who don't practice these good habits. If you have an emergency or illness, contact me ahead of time to let me know that you will be absent. Studies have indicated that students who missed the first-class meeting are more likely later to withdraw or fail. **Important note:** if you miss a class it is your responsibility to get up to date with the material. There are **no make up for homeworks** and **no late turn in for connect assignments**, unless you show proof of a valid excuse.
    - Keep up: **Spend between 10-12 hours per week studying for this course outside of class:** It takes dedication and practice to master the concepts that are taught throughout this class take time and practice to master. There are no shortcuts to this. You should spend this time reading the book and doing problems from it. All of this, on top of the required connect homework.
    - **Understanding** the various concepts at the core of this class is vital to succeed. **Memorizing only, is highly discouraged because it is a recipe for disaster**!
    - **Do the textbook problems:** Each chapter on the book has hundreds of problems. The problems are divided by chapter topic and then sub-divided by foundations (concepts) and applications. Try to do as many problems as possible. At the very least you should do two problems on each one of the sub-sections. If this is the case, try to make sure that you are able to solve the problems towards the end of each of the sections since they tend to increase in

difficulty and in this way, you will make sure you are confident in solving the most difficult problems for a particular chapter topic.
    - **If you need help you need to ask!** I don't have an office on campus for holding regular office hours, but I will be available by appointment (scheduled either in person or via email) in order to **help you to work the problems that you are struggling with**. It is important that you understand that in order for me to help you, you have to show me that you have tried working the problem, which means that you actually struggled to solve it but you were not successful. **I will not do problems for you under any circumstance**.
    - Listen up and Soak up: **Do not use your electronic devices in class:** The use of electronic devices (smartphones, tablets, laptops, MP3 players, etc…) is completely forbidden during lectures and lab. The use of such devices in class creates major distractions during class/lab that hamper your learning. Breaking this rule will result in your automatic dismissal from the classroom and an automatic zero on all the assignments/assessments that were due on that day.
    - **Be respectful to me and to your peers:** Respect to all the members of the class is expected and required. Refer to others in the classroom using their names or Sir, Miss, Dr. Professor, etc… Do not interrupt when someone else is speaking. Do not engage in disruptive behavior, like conversations during class.
    - **Do not lobby/negotiate for a grade!**
- Post/ Make-up Work
    - If you are not there on a day I hand out a take-home evaluation, please arrange to come get it. If you do not come get it, you must take it *during* the next class time. If a lab is missed, please make arrangements with me to make it up, as there are other classes in which you can attend. Please attend all the labs you can. Also, if more than two labs are missed, you will receive and F for the course.
- Test Conduct Policy
    - Multimedia devices may not be used during tests without the permission of the instructor. Mobile devices may not be used as calculators during tests without the permission of the instructor. Leaving the room before finishing a test without permission constitutes completion of the test. You are responsible for bringing your own calculators/writing instruments/extra paper to test sessions. Calculators may not be shared during tests without the permission of the instructor. Unless otherwise specified at test time, resources such as books and notes are not allowed during tests.
    - During testing (lecture AND lab), all Bluetooth earpieces, headphones, caps, hats or other headgear are to be removed. Phones and computers are to be turned off. Students will be asked to evenly distribute around the room prior to the start of testing and place all personal items not required for the exam under their desks.
- Lab Behavior Policy
    - You are responsible for **knowing and following** laboratory safety practices, rules, chemical handling and disposal procedures, and emergency procedures. Please see the Chemistry Lab Rules and Instructions document posted on the course site. Note specifically that side-shielded **eye protection, closed shoes, and complete coverage of the lower half of your body with loose fitting, non-flammable material must be followed at all times** while in the laboratory. Failure to comply with these regulations will result in points being deducted and/or dismissal from the laboratory session.
    - Inappropriate behavior in the laboratory will result in dismissal from the laboratory session.
    - Please see the Attendance Policy section regarding lab attendance and absence procedures, and the Grading Policy section regarding late or missing assignments. Designated pre-

laboratory work is required for you to perform the laboratory work. You may not be allowed to start the lab if you are tardy.
- You are responsible for the cleanliness of common equipment and work areas that you use, and lab equipment assigned or otherwise designated for your use. Points will be deducted for failing to clean up after yourself.
- You are responsible for equipment damage, breakage or loss. Please see the Chemistry Lab Rules and Instructions document posted on the course site.
- Laboratory students should work in groups of two or three as per the instructor. You are responsible for obtaining the data from your lab partner(s) necessary to be able to complete your lab assignments regardless of their lab attendance or availability. The instructor may allow a student to work individually.
- It is imperative that students use safe laboratory techniques at all times in the laboratory. Failure to adhere to safety rules will result in the removal the student from the lab to safeguard the entire class.

Attendance Policy:
Attendance is desired and I will take attendance each day.

Grading Policy:
Grades earned at the end of the semester will be based only on the accumulated points from lecture and lab evaluations. Your grades for each assignment will be available on the site as soon as the assignment has been graded. You should keep all returned assignments and exams. If there is a discrepancy between a posted grade and that on a returned assignment, please contact me immediately. You may calculate your grade at any time in the semester by dividing your accumulated points by the total points possible at that time. Grades will not be rounded up, even if you miss the next higher grade by a single point. A small number of extra credit points will be available to earn throughout the course, however there will be no opportunities to do extra activities outside of these to try to increase total points.

- A zero score will be given for exams missed without prior arrangement with the instructor. At the end of the semester there is a mandatory final ACS Exam that must be completed
- The following will result in a failing grade for the course unless you withdraw from the course: Failure to attend 2 or more laboratory sessions and/or failure to complete and turn in three or more Lab Reports.
- Your overall course grade will be determined at the end of the semester by the percentage represented by your score over the total points according to the following scale (may be modified at the discretion of the instructor): A is 100-90%, B is 89-80%, C is 79-70%, D is 69-60%, and F is 59% and below

Explanation of Assignments/Course Expectations
Each exam covers two chapters. The ACS final is half CHE 111 and half CHE 112. We will also have Online Homework on D2L, Laboratory Reports and a Laboratory Practical.

Homeworks
Chapter Homeworks will consist of multiple-choice type questions. They will be ONLINE and you will not be allowed to use any other resources besides you, a calculator, a periodic table and any writing utensil.

Exams
Evaluations will consist mostly of multiple-choice type questions. Your exams will be in class and closed book. These are worth 100 points each. Any attempt of copying from others or from external sources, such as cell phones or note cards, will carry a zero on that particular evaluation and will be promptly reported to the Dean for further disciplinary action. So, avoid cheating at all costs!

Lab Reports

Notebook/Lab Report Template for each experiment: In General

Each lab report should contain the following items:

- **Pre-lab assignment** : I will check these at the beginning of the labs
- **Pre-lab** -**Reagent Table / Toxicity data in notebook**: Is part of the prelab assignment and it is check at the beginning of the lab
- **Header**: Make sure to fill out **every** header area with your name, the name of the experiment & date
- **Procedure**: Use a **two column** format… Cite the source of your procedure.
- **Notes/Observations**: Describe everything you did and saw, including observations of **all** chemicals, concentration of chemicals, and anything you did in the lab.
- **Calculations Section**: Calculations of results you obtained
- **Summary/Results/Discussion(conclusion)**:
- Short, general summary of what you did/observed.
- **Table(s)** Present a table(s) of your results.
- **Conclusions…**
- **Each page Signed** by you, the experimenter, and your **instructor** as the witness

Late Policy

- Punishment for Procrastination

  Anything turned in late will have 10% deducted from that score *per day* late.

Extra Credit Options
Extra Credit Options will be offered sparingly and will be a measurement of your effort in class. As such, I recommend doing the REGULAR credit and not expect extra credit. We will do at least one Practice Final Exam. Your score (out of ten points) on that Final will be equivalent to your extra credit points.

Assignments Point Value

Assignments	Point Values
5 Exams (100pts each)	500
1 Final Exam (150pts)	150
10 Chapter Homeworks (13pts each)	130
12 Lab Reports (15pts each)	180
1 Lab Practical	40
Total	1000

Students may access their grades on PPCC Online (D2L).

Grading Scale

Grades	Percentages
A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	59% and below

Institutional Syllabus & Student Services

Institutional policies regarding academic honesty, plagiarism, student conduct, accreditation, Americans with Disabilities Act, assessment, classroom attendance policy, course evaluation, grading, withdrawals, incomplete grades, grade change requests, and student concerns are found in Part 3: Institutional Syllabus.

Students are encouraged to take advantage of the many student services available at PPCC, such as ACCESSibility services, counseling, tutoring, advising, financial aid, scholarship opportunities, military and veteran programs, and many more.

Academic Honesty
Plagiarism and cheating will not be tolerated and will result in a zero on the assignment. The dean of students will also be notified as well.

LECTURE SCHEDULE (Spring 2020)*

Day	Date	Lecture / Exam	HW Due*
R	23-Jan	Introduction, Syllabus & Schedule / Chapter 11 – IMFs and Liquids and Solids.	
T	28-Jan	Chapter 11 (cont.)	
R	30-Jan	Chapter 12 – Physical Properties of Solutions	
T	4-Feb	Chapter 12 – (cont.)	
R	6-Feb	**EXAM 1 - CHAPTERS 11 & 12**	HW 11 &12
T	11-Feb	Chapter 13 – Chemical Kinetics	
R	13-Feb	Chapter 13 – (cont.)	
T	18-Feb	Chapter 13 – (cont.) / Chapter 14 – Chemical Equilibrium	
R	20-Feb	Chapter 14 – (cont.)	
T	25-Feb	EXAM 2 REVIEW	
R	27-Feb	**EXAM 2 - CHAPTERS 13 & 14**	HW 13 & 14
T	3-Mar	Chapter 15 – Acids and Bases	
R	5-Mar	Chapter 15 (cont.)	
T	10-Mar	Chapter 15 (cont.) – Chapter 16 – Acid Base equilibria and Solubility equilibria	
R	12-Mar	Chapter 16 - (cont.)	
T	17-Mar	Chapter 16 - (cont.) / EXAM 3 REVIEW	
R	19-Mar	**EXAM 3 - CHAPTERS 15 & 16**	HW 15 & 16
T	24-Mar	**SPRING BREAK - NO CLASSES**	
R	26-Mar	**SPRING BREAK - NO CLASSES**	
T	31-Mar	Chapter 17 – Entropy, Free Energy and Equilibrium	
R	2-Apr	Chapter 17 – (cont.)	
T	7-Apr	Chapter 17 – (cont.) / Chapter 18 – Electrochemistry	
R	9-Apr	Chapter 18 – (cont.)	
T	14-Apr	Chapter 18 (cont.) / EXAM 4 REVIEW	
R	16-Apr	**EXAM 4 – CHAPTERS 17 & 18**	HW 17 & 18
T	21-Apr	Chapter 19– Nuclear Chemistry	
R	23-Apr	Chapter 24 – Organic Chemistry	
T	28-Apr	**EXAM 5 - CHAPTERS 19 & 24**	HW 19 & 20
R	30-Apr	PRACTICE ACS FINAL	
T	5-May	FINAL EXAM REVIEW I	
R	7-May	FINAL EXAM REVIEW II	
T	12-May	**ACS COMPREHENSIVE FINAL**	

LAB SCHEDULE (Spring 2020)*

DATE	Lab	Due
23-Jan	**NO LAB**	
30-Jan	Lab Check-In / Glassware & Safety	
6-Feb	#1: IMF Tests and The Identity of Unknown Liquids?	
13-Feb	#2: Rate of Evaporation and Unknown Liquids?	Lab Report 1
20-Feb	#3: FP Depression Phenomena and Unknowns	Lab Report 2
27-Feb	#4: Getting Rid of The Evidence	Lab Report 3
5-Mar	#5: Can LeChatelier's Principle Be Tracked?	Lab Report 4
12-Mar	#6; Acid-Base Titration **AND** #7: Indicators	Lab Report 5
19-Mar	#8: What Salt Is This?	Lab Report 6 **&** 7
26-Mar	**SPRING BREAK – NO LAB**	
2-Apr	#9: How to Make and Dissolve A Kidney Stone?	Lab Report 8
9-Apr	#10: Qualitative Analysis of Household Chemicals	Lab Report 9
16-Apr	#11: Electrochemistry	Lab Report 10
23-Apr	Lab Practical	Lab Report 11 & Lab Practical
30-Apr	#12: Breaking Bad	Lab Report 12
7-May	Equipment Check-Out	

*This schedule is subject to change.