

Chemistry 1B Syllabus

Laney College – Fall 2018

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¹ This is the general sequence by which we will cover the material, there is a separate handout with the detailed schedule.

Class Information

Course Name: General Chemistry

Course Number: Chemistry 1B (44032)

Class Meeting Days and Times:

Lecture MWTh 06:00-07:50 pm Room L-EV 5 (Professor: Abraham Reyes – Course Number: 44032)

Lab MW 08:00-9:15 pm Room L-A 235 (Professor: Abraham Reyes – Course Number: 44033)

Prerequisite: Chemistry 1A. The topics you should *at least* already have in your pocket are: significant figures and rounding (Ch. 1, Appendix A1-A5), nomenclature (Ch. 2), stoichiometry (Ch. 3), VSEPR (Ch. 9) and Gases (10). Check the handout “Concepts from CHEM 1A for CHEM 1B” to check concepts you will need right away (you will find it in the lecture notes folder).

Lecturer: Professor Abraham Reyes, PhD.

Office Location: Lab. A 236a

Office Phone: (510) 464-3269 (I do not really use the phone, *please e-mail me instead*. See below.)

Office Hours: MW 5:00-6:00 PM in Lab. A 236a (Any changes will be announced in class).

To reach each other:

E-mail Address: areyes@peralta.edu (Please include “CHEM 1B–Morning” in the subject line of any e-mail you send to me; if I don’t know you, I’ll erase the e-mail. So please, include “Chem 1B–Night” in the subject line.).

Class Website: <http://www.laney.edu/wp/abraham-reyes/> (you have to check the NEWS section on the website often since that is the way I will communicate with you – and give notice of any changes to our class.)

Note: Exchange phone numbers/e-mails with your classmates so that you can be informed timely of all changes (in case you miss class); also, so that you can form study groups to practice/study together (strongly encouraged!).

Required Textbooks and Equipment:

1. Text: Brown, LeMay, Jr., Bursten, Burdge. Chemistry The Central Science. 13th Edition, Prentice Hall. (ISBN: 978-0-321-91041-7)

2. Fossum, Chemistry 1B: Lab Manual, Laney College, Version A; 2002, (Updated May 2003) Laney IMC. (It will be posted online.)

3. Lab Notebook – A bound notebook with numbered duplicate pages, such as Saunders Student Laboratory Research Notebook. (100 pages). Make sure the copy pages are yellow or a light color. **Note:** You may bring a used lab notebook as long as it has enough pages (sequentially numbered) and as long as it doesn’t have any previous work on it. Failing to bring a lab notebook of the type specified will result in a zero on your first assignment (no exceptions).

4. A nonprogrammable scientific calculator with logarithms, exponential or scientific notation, and square root functions keys. **Note:** The calculator function on cell phones, Blackberries, PDAs, Laptops, as well as graphing calculators or calculators with a significant amount of memory cannot be used on exams. Electronic translators cannot be used during exams. **Instructor’s Recommendation:** Texas Instrument TI-30XA (it is simple and inexpensive).

Course Description

The courses Chemistry 1A and 1B comprise a one-year, college level introduction to the basic concepts, principles and methods of general chemistry. In Chemistry 1B we will cover kinetics, chemical equilibrium, acids and bases, chemical thermodynamics, electrochemistry, nuclear chemistry, coordination chemistry, chemistry of the environment and a brief introduction to organic and biological chemistry.

Lecture Schedule: We will be covering the following chapters, *in this order* (for a detailed outline of when the different sections of every chapter will be covered, please download the schedule handout from the website):

Chapter 14 – Chemical Kinetics

Chapter 15 – Chemical Equilibrium

Chapter 16 – Acid-Base Equilibria

Chapter 17 – Additional Aspects of Aqueous Equilibria

Chapter 19 – Chemical Thermodynamics

Chapter 20 – Electrochemistry

Chapter 21 – Nuclear Chemistry

Chapter 23 – Transition Metals and Coordination Chemistry

(Chapter 12 – Metals)

Chapter 24 – The Chemistry of Life: Organic and Biological Chemistry

(Chapter 18 – Chemistry of the Environment)

Chapters in parentheses above are optional; if covered, they will be covered briefly (just some essential aspects).

Method of Instruction: In a nutshell, this course is a guided lecture, which means I am here to help, but you must be actively involved in the learning process. Keep the following in mind:

- A) *Simplified notes are provided* while examples and problems are worked out with the help of students in class (*i.e.* you must take notes in class and the lecture notes have extra room for it).
- B) Questions will be asked and are expected to be answered by the students; so, you must read the material (and/or watch the suggested videos) ahead of lecture/Lab in order to be able to participate in class – I will give extra points for participation in class, which includes solving certain problems as well.
- C) The exams and quizzes are written under the assumption that you have attended lecture, read the text, solved the worksheets provided and done the homework.

Student Learning Outcomes (SLO's):

By the end of this course, you are expected to have learned to:

1. Solve quantitative chemistry problems and demonstrate your reasoning clearly and completely. Integrate multiple ideas in the problem solving process. Check results to make sure they are physically reasonable.
2. Clearly explain qualitative chemical concepts and trends.
3. Describe, explain, and model chemical and physical processes at the molecular level in order to explain macroscopic properties.
4. Perform laboratory techniques correctly using appropriate safety procedures.
5. Analyze the results of laboratory experiments, evaluate sources of error, synthesize this information and express it clearly in written laboratory reports.
6. Maintain a laboratory notebook according to standard scientific guidelines.
7. Design, construct and interpret graphs accurately.

Grading Policy and Method of Evaluation

Homework will be assigned, but not collected. The *approximate* total numbers of points assigned are:

There will be a Quiz every week (some 20 points each):	240 points
We have three Partial Exams worth 150 points each:	450 points
The final exam (ACS Exit Exam)	250 points Mandatory (It is comprehensive!)
Laboratory Reports (full and short format)	250 points (approx.)

Grades will be assigned as follows:

90-100 %	A
80-89.9 %	B
65-79.9 %	C
50-64.9 %	D
under 50 %	F

You can calculate your grade at any time by dividing the total number of points you have earned by the total number of points possible so far, and then multiplying by 100 to get a percentage.

NOTES ON THE GRADES, PLEASE READ CAREFULLY:

- 1) You must pass (get more than 75 points) at least two out of the three partial exams, or you will receive an F in the class, no matter how many other points you may have.
- 2) *If you do not pass an exam, the requirements to take the next one are:* a) come to see me – the week after you receive your test back – with a brief reflection (hand-written, one paragraph or two) on what happened, and b) complete at least 30 minutes of tutoring with me (it may not be individual due to the number of students).
- 3) The second final exam is worth 200 points exactly and you cannot disregard its importance (or your grade may drop dramatically). Nevertheless, you will be allowed to use a cheat-sheet on the final (only on the final exam). The cheat-sheet is only one side of an 8½" by 11" page.

Exams: The chapters covered in every exam are outlined on the schedule (study guides are provided). Due to the nature of Chemistry, the exams are cumulative – at least to some extent – and the final is comprehensive. The exams will take place the following dates: Sep/17, Oct/22, Dec/03 and the final on Dec/10.

Note: There will be no make-ups possible for exams. If you miss an exam, it will ordinarily count as a zero. If an emergency comes up, you must **notify me before the evaluation** (send me an e-mail). For an excused absence, you may be assigned a score calculated from your other exam scores – which you must pass.

Quizzes: They take place **every Thursday** (see the schedule) unless there is an exam that week. No make-up quizzes will be given. The quizzes will always cover material you already have had the opportunity to study and ask questions about; they may also include questions from Lab Experiments.

Homework: Assignments will not be collected. However, if you do not do the homework, and especially the worksheets, you will not perform well on the quizzes and exams. Detailed solutions to all of the problems are found in the solutions manual (recommended, but not required). Remember: in order to succeed in this class, you must be able to do these and similar problems on a test, without the help of the solutions manual or answer key. In order to learn how to do the problems, you need to struggle with them for a while. Do not turn to the solutions manual or answer key too soon. Also, sometimes the solutions manual or the key contains mistakes. Do not go against your better judgment and write down a wrong answer just because it is in the solutions manual or the key.

Extra Credit: There will not be extra credit assignments in this class, no make-up tests, and no retaking tests. It is therefore very important that you learn the material **before** being tested on it; nevertheless, I do normally give extra points towards the exams through participation during review sessions and also towards your overall grade when we solve problems in class. Moreover, I consider overall class participation to add some extra points to your total score at the end of the semester (I will decide the specific amount then, but trust me, this can help!).

Laboratory: The date of each lab is listed in the calendar. Please check the schedule because the labs are not sequential. You should come to class with the **pre-lab** written on your lab notebook. Each student must have their own lab notebook; lab notebooks cannot be shared. You **must collect at least two signatures every lab experiment**: one for the pre-lab (when you arrive) and one for the data collected (by the time you leave) in order to get the credit for the experiment. Pay close attention to pre-Lab questions and final questions to get the most points.

Overall, **you are graded on the write-up, quality of work, and analysis of results. Students who do not bring the pre-lab will not be allowed to stay and work on the experiment, no exceptions!** During the Lab Experiment, you will record all observations and data directly into your lab notebook with pen (points will be deducted if you write elsewhere or use a pencil). The finished lab should have a purpose, a procedure, a data table (if requested), a calculations section, a results table, an evaluation section, and final questions. To find out how you will specifically be graded on the lab, please refer to the lab handouts in the Lab folder of the website for our class (see page 1 for the link). Any work that is deemed illegible will be marked down.

Due dates for Lab Reports: They are already on the schedule; in general, Lab Reports are *due one week after* the day the experiment is completed (any changes will be announced timely in class and posted in the NEWS section of the website for the class). Points to keep in mind:

- A) **You are expected to turn in your work in time and form.** Getting used to this – *turn in quality work when it is requested – is one of the most valuable assets in any professional worker*; therefore, **incomplete lab reports or late lab reports will not be accepted** (unless an extraordinary situation takes place and it can be confirmed).
- B) Also, you must come to your assigned lab, not any lab time that you feel like. **You cannot turn in Lab work for a day you were absent (this includes your partners work).**

Your lab reports and the pre-lab(s) for a particular day must be turn in the moment you get to the lab (you will leave them by the desk on L-A236). You must be present for the introduction to the experiment. If you fail to be there in time, you will not be allowed to stay; a few minutes of grace will be given, but you will be marked as late and **two late markings will count as an absence**. One of the objectives of this course is to give you practice in various lab techniques, so, if you miss lab often, you won't get this essential practice. Hence, if you miss 4 or more lab experiments, you cannot pass this course, no matter how many other points you have.

Attendance and Class Policies

Attendance is mandatory. According to Laney College policy, you are allowed a total of two weeks of absences; therefore, **if you are absent from class six or more times, you will be dropped from the class regardless of your grade, and I will stop grading your work.** Also, *you are expected to arrive to class in time. All the quizzes will take place during the first 20-25 mins or so of the class,* and **no one will be taking the quiz later or be given extra time;** furthermore, *I review the material from the previous class during the first few minutes of each lecture.* Another reason not to be absent: At times I deviate from the text (to emphasize the material in a different way and/or to point out things you must know); therefore, to do well in this course, you must attend the lectures.

If you miss class or come in late, it is your responsibility to find out what you missed, including handouts, assignments and due dates (exchange phone numbers/e-mails with your classmates so that you can get this information if you need it). You are responsible for knowing when exams will take place and all due dates. Being "misinformed by another student" is not an excuse for missing an exam or not turning in your work. Check the "Announcements" on the website to look for schedule updates and other important announcements. (Laney College Catalog, 2018-2019, p. 21)

Students with special needs: *I wish to make this course as accessible as possible to students with disabilities that may affect any aspect of course assignments or participation.* I encourage you to communicate with me as soon as possible (by the second week of the course at most) regarding any accommodations that will improve your experience in (or access to) this course. You can also contact the Disability Services and Programs for Students (DSPS) at 464-3428 for assistance.

Drops/Withdrawals: Enrolling-in or Dropping the class is your prerogative (you are in charge of it); therefore, **I will not drop you from the class just because you stop coming**, unless your cumulative absences warrant it; you must do it yourself (or get an F at the end). Laney's procedures indicate that the last date to drop full-term credit classes without a "W" appearing on transcript is Monday, September 3rd, and the last date to drop and receive a "W" is Friday, November 16th, 2018. (Laney College Catalog, 2018-2019, p. 20)

No Shows and Auditing Classes: Students who are not present the first class meeting will be dropped and their seat will be given to a student on the wait list; also, Peralta Board Policy does NOT permit students to audit classes. Class attendance is limited to students who are officially enrolled. (Laney College Catalog, 2018-2019, p. 21).

Conduct: Disruptive or insulting behavior, willful disobedience, habitual profanity or vulgarity; or the open and persistent defiance of the authority of, refusal to comply with directions of, or persistent abuse of, college employees in the performance of their duty on or near the school premises or public sidewalks adjacent to school premises will be subject to disciplinary action. (Peralta Community College District, AP 5500)

Technology Policy: You must bring a simple scientific calculator. You are welcome to use a laptop or tablet to follow the class and work on problems; however, **if you use technology for other purposes while the lecture is being given, this permit will be revoked and a no technology policy will be enforced** (be very mindful of this!).

Cell Phones: Please be considerate and **make sure that your cell phone is on vibration mode (turned off if possible)** during lecture and lab. Also, **if you receive a text message and you need to answer it right away, please step outside and do it.** We will all need to concentrate in this class and ringing phones are incredibly distracting.

A student who willfully and/or persistently misuses a cell phone in one of the ways described above will be subject to disciplinary action.

On Cheating:

It is fine to discuss your lab work with each other and help each other. It is not OK to copy sentences or paragraphs from other students or to allow another student to copy from you. *It is not OK to collaborate during exams and quizzes.* **If you are observed cheating on an exam or quiz, you will get a zero on the assignment and be subjected to a disciplinary process.** If I see you looking at someone else's paper, talking, laughing, or exchanging any sort of materials, I will assume you are cheating; so please, make sure you keep your eyes on your own paper and focus on your work. If you have a question or if you need something during a test, raise your hand, do not ask your neighbor.

Advice:

Do not get behind. The nature of any chemistry class requires a fast pace – nothing new here! This means that you will be expected to absorb a large quantity of material in a short period of time and retain it, and since Chemistry is cumulative, once you get behind, it is almost impossible to get caught up; so, review your lecture notes and work some problems daily. You must study before and after the class in order to do a good job; on average, this class requires some 20 hours per week in work and studying; you need to keep this in mind when you figure out your schedule for this term, and... KEEP UP WITH THE WORK! This stuff takes practice. In order to understand the material, you need to be actively involved in the learning process. This means trying to do problems on your own, doing the examples in the book, being focused in lecture and lab, and asking for help when you need it.

A final note:

“Laney College does not discriminate on the basis of age, race, color, sex, gender, or sexual orientation, national origin, or disability.”

At the end of the semester, I will give you the grade you earn. If you "need" a B, you must do B work during the course. I will also not give you a lower grade than you earned. If you complete the class, I will not give you an incomplete. It is fine to ask for clarification on grades, but do not argue with me about your grade.

The purpose of the policies outlined, which might seem a little harsh, is to guard against students being dishonest, manipulative, or unreasonable (it does happen sometimes, believe me!). I want you to approach this class honestly, take responsibility for yourself, and start being professional (if you have not started yet). The way this class is outlined will help you to obtain valuable tools that you will be able to apply in many different areas and, undoubtedly, they will open many doors in your way to success (define it as you may).

Very Important

You MUST turn in the following contract to remain in class.

Go to the next page. ⇒

Chemistry 1B Syllabus

Laney College, Fall 2018

Professor Abraham Reyes, PhD.

I have read and I understand the information and policies outlined on the syllabus, and by signing here I am agreeing to abide by them.

Name (as it appears on the official roster):

Last

First

What is the name you go by? If applicable, write N/A otherwise:

Preferred pronoun(s)? If applicable, write N/A otherwise:

Signature

Date

Note: I will be using your ID number to upload the grades so that you can see them. This implies you must keep in mind your ID number.