Course Description

Chemistry 1B is the second semester of the year long General Chemistry series required for many science majors. Your past experience in learning chemistry (dimensional analysis, significant figures, nomenclature, chemical equations, electronic structure, bonding, etc.) will be the foundation for your understanding of a variety of new chemical concepts (organic chemistry, rates of reaction, equilibria, acid-base equilibria, thermodynamics, electrochemistry, coordination complexes, nuclear chemistry). Learning in general chemistry is sometimes overwhelming because it is a survey course covering a wide range of concepts and language. Do not be discouraged by this; be encouraged by the conditioning this course will provide for all future science courses.

A distinctive difference between Chem 1A and Chem1B is an expected increase in your study skills. It is assumed that your experience in Chemistry 1A prepared you to continue with the study skills acquired there. Doing homework is mandatory but it will not be graded, you won't do well without it but you must be self motivated. You will do more solo experiments in the lab and all lab reports are individual. The work load is slightly greater because the chemical topics are considered more difficult and there are written lab reports.

The bottom line is Chem1B is one more course, with an unfamiliar instructor with new expectations. It will be a challenge. All students struggle in chemistry and the majority succeed. If you have special needs or any need, get help early and often. Help comes in many forms. I recommend you visit my office hours, be a part of an SI group in ACCESS, study with other serious Chem 1B students and study in the MESA center, Rm 714. Private tutors are also available but all of the other recommendations are free of charge.

Management of work load is a critical skill in taking all science courses. First and foremost, I recommend reviewing your current schedule. Fifteen units of college courses are considered a full time job’s worth of time. If you are a science major, thirteen units may take that same 40 hours a week. Do you have a job, children, other obligations? Do not set yourself up for undue stress and misery by over committing. Count the hours you need right now and plan accordingly. Other steps to help with time include eliminating TV, scheduling regular individual studying in a place where help is readily available (MESA) and then not allowing other demands to interfere with that study time and also accommodate your learning style--working in quiet or working with some noise (Mozart?), make and use flash cards, borrow notes regularly if you can’t take notes and learn at the same time etc. Patience, sleep, exercise and nutrition are also basic but important contributions to learning.

PRACTICES

This course consists of two lecture and two lab periods per week. Being absent or late will affect your grade. If you have to be absent or late, please call or email your instructor to minimize the effect on your grade.

Instructor: Christy Vogel, Ph.D. Phone: 831 479-6441 Email: chvogel@cabrillo.edu

Lecture begins at 12:40 pm in Room 615 and ends at 2:05 pm. Lecture includes updates regarding schedule changes, identification of the most important pieces of the textbook, in class problem solving, skill building pop quizzes and exams. All students are expected to prepare for lecture and to participate in lecture.

To prepare for lecture successfully you must have the required textbook, Chemistry by Silberberg, 5th edition. Lecture preparation includes reading the material and doing the assigned problems (on the Lecture Schedule) prior to the topic being presented by your instructor. Needless to say, preparation includes coming to class on time with the necessary
tools to participate. You will need writing utensils, paper and a nonprogrammable scientific calculator every day of lecture.

Participation includes active listening (not talking or elbowing other students, not texting ever or doing any activity that appear to be a distraction from the course material) and active doing. You will be called on during lecture to give opinions or answers and the entire class is expected to participate in problem solving including board work.

Any issues regarding your ability to prepare for or participate in lecture must be addressed as soon as possible (ASAP) with your instructor.

Office: Room 604A
Office Hours: MW 9-10:45 am; TTh 11:55am-12:20pm

Office hours have been scheduled to allow students time to discuss any issues with the course with the instructor on an individual basis. These are first come, first serve and so you may want to call or email if you need a specific time during these office hours. Questions and concerns can also be addressed by phone or email.

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Office hours are the most direct and sure method to get an answer while the phone and email may take longer, depending on the day and hour. Another option includes appointments at nonoffice hour times for students with conflicting schedules.

Specific practices for lab are addressed in a separate document and during lab lectures.

Points

Grades are given for participation, pop quizzes, exams and extra credit. Point values are assigned and will make up the major portion of your course grade.

Lecture

The lectures highlight what parts of the chapter will most likely be on the tests. Changes in the course schedule will be announced in class and you are responsible for these changes even if you miss class. Being on time and prepared for lecture will promote understanding of the material and keep you apprised of important dates. Also pop quizzes will be given during the first few minutes of class. The lecture schedule describes the general ebb and flow of topics but is not strictly followed. Lecture attendance will not be taken but will most assuredly affect your grade.

Participation is worth 20 points before Exam 2 and another 20 points at the end of the course. Participation is simply approaching the course as a scholar and not hindering the instruction of others. The lecture portion of the course is always a group activity so everything from regular punctuality to productive discussion can add to your score here. Point loss in this category is frequently associated with regular tardiness, disrupting lecture, or anything else that your instructor deems detrimental to learning. The assumption is the majority of students will receive 100% of these points. Since our behavior affects the learning environment of everyone, it is important to specifically describe our standard at Cabrillo College:

Behavior Expectations (also found in lecture syllabus)

All students are expected to: 1) Respect your classmates and your instructor, no sarcasm, no put-downs, no disruptions by speaking out of turn, calling out, etc. 2) Be attentive, stay on task, participate in discussion, do not be disruptive (turn off cell phone, come to class on time, etc.). 3) Complete and turn in assignments on time.

Consequences for Disruptive Behavior: First time (not severe) – discussion and verbal warning Second time – dismissed for the remainder of the class and for the next class period. Student is required to meet me in office
hours before returning to class to develop an agreement about proper classroom behavior. Third time –
dropped from the class, grade of W or F will be assigned.

SEVERE CLAUSE–Severe acts of disruption, lack of respect, such as with the use of a racial slur or an issue of
sexual harassment will be cause for immediate drop from the class and referral to the Dean of Student
Services and other college and legal authorities.

Two warnings will cost 20 points. If a third warning is necessary, participation points are a moot issue.

One last word on participation, being called on is not punishment or a sign of favor but will happen to everyone. Active
participation in lecture includes everyone even very shy people or the unprepared. The emphasis is being present, not
being perfect. Being able to communicate verbally what you know or thinking out loud is an important skill. **When the
class is presented with a question, please wait to give your answer until you are called on so all students can
participate.**

**Pop quizzes** will occur within the first ten minutes of lecture and will usually consist of one or two questions. They are
intended to test recent material, particularly material discussed in the previous lecture. They will be worth 5 points
each and may occur one or two times per week. There are no makeup pop quizzes, but there will be a dropping of the
two lowest scores at the end of the semester. This means you can miss or bomb two pop quizzes without affecting your
course grade.

**Homework**
The lecture schedule includes recommended homework problems for each chapter. Very much like lecture attendance,
completed homework problems at the back of each chapter are not going to be graded but they will dramatically
influence the quality of your learning and your ultimate grade. It is highly recommended that you prepare for exams
and pop quizzes by doing all the recommended problems BEFORE the lecture on the material is presented. The answers
to these problems are in the back of the book. You must get the most of this effort by trying the problems and using the
answers to help you master the material. By at least trying to master problems before lecture, you will have prepared
your mind to see the material a second time and this drastically improves what you receive from lecture. The even
numbered problems will be used as examples in lecture. Make sure you do any similar problems before the exam on
this particular material.

**Exams** will include short answer and multiple choice questions. You will have three exams that will last the entire
lecture period. To take the exams you will need

| Half sheet green scantron | Nonprogrammable Scientific Calculator | Pencil & Eraser |

Your lowest of three test scores will be dropped. There are no make up exams available but make sure if you miss an
exam you get a copy so that you can use it to study for the final.

**Extra Credit**

Several extra credit assignments are available online (Blackboard and the Chem1B homepage). These are to be turned
at the beginning of lecture on the due date. Incomplete extra credit will not be graded so please do not turn them in.
This is an opportunity to make up for lost points.

**Test Corrections**

The purpose of this extra credit is not more points but more learning. By returning your exam, scantron with the
corrected answers with explanations on a separate sheet one week after the return of the exam, you can correct your
thinking and receive up to 25% of the missed points of the exam. These points will show up as an amended test score and if the amended test score is the lowest of the three, those points are dropped as part of the test score at the end of the semester. You want to complete a test correction as a means to understand the material and have a prepared study guide for the final. Incomplete corrections will not be graded.

**EC Exercises (Maximum of 15 pts each)**

All extra credit must be turned in before or on the above due dates at the beginning of lecture. Assignments must be complete, *incomplete Extra Credit will not be graded*. “Late extra credit” just doesn’t sound right does it? Therefore, late EC will not be accepted. Extra is extra, not necessary but really nice.

The first extra credit opportunity is simply a drill on naming and drawing organic compounds. To receive full credit you will complete the handout and turn in at the beginning of lecture on the due date. In the remaining two exercises you will use MS Excel software to interpret the raw data given in the problem, make graphs, interpret these graphs and submit a written report (Title, Abstract, Spreadsheet, Graphs) by the due dates. The cover page with meaningful title and short but meaningful abstract are mandatory and the exercise will not be graded without it. **Please read the section on Academic Integrity before attempting the Excel extra credit exercises.**

<table>
<thead>
<tr>
<th>EC Assignment</th>
<th>Due Date</th>
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</thead>
<tbody>
<tr>
<td><strong>EC1 Organic Nomenclature</strong> (10 pts)</td>
<td>3/4</td>
</tr>
<tr>
<td><strong>EC2 Autoionization of Water</strong> (15 pts)</td>
<td>4/22</td>
</tr>
<tr>
<td><strong>EC3 Vapor Pressure of Water</strong> (15 pts)</td>
<td>5/20</td>
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</table>

All extra credit must be turned in before or on the above due dates at the beginning of lecture. Assignments must be complete, *incomplete Extra Credit will not be graded*. “Late extra credit” is an oxymoron—it will not be accepted. Extra is extra, not necessary but really nice.

It benefits you greatly to work ahead of the schedules. Deadlines may not be extended—regardless of computer or internet difficulties.

**Academic Integrity/Individual Work**

You are expected to comply with the student responsibility rules written in the second edition of the Student Rights and Responsibility Handbook, entitled, “Working Together toward Positive Solutions.”

This handbook is readily available online from the Cabrillo Home Page. *Any unauthorized sharing of lab data or information during exams or quizzes will affect your grade* and may lead to removal from the course.

A finer point that needs to be made is that **you absolutely must work independently on all written electronic reports, including the extra credit excel exercises**. The reality in these academic times is once one person types up a report or exercise, the entire class could turn in one exercise but turning in assignments is not why we are here. I have to assess your ability to write and think independently. If there are several similarities between papers, I will be forced to distribute the points of one document among as many of those students who copy it. For example, if a formal report is worth 40 points and 2 students turn in similar documents each would receive half of the earned points, i.e., if the report earned 35/40 then each would receive 17.5 pts/40. Please don't do this, it is blatant refusal to learn and it really chaps my educator hide. I will not entertain any claims to original authorship, if you do all the work and give it to someone else you will suffer the same loss of points as the slacker. Sharing Excel tables and graphs for extra credit assignments will produce disastrous results. I am the sole arbiter of what constitutes copying in my class.
## Approximate Point Distribution

<table>
<thead>
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<th>Grade Contribution</th>
<th>Number</th>
<th>Points Possible</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>Participation</td>
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<td>20</td>
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</tr>
<tr>
<td>Pop Quizzes</td>
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<tr>
<td>Exams</td>
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<td>Final Exam</td>
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<td>200</td>
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<tr>
<td>Labs</td>
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<tr>
<td><strong>Total</strong></td>
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100-90% = A  89-79% = B  79-69% = C  69-59% = D  <59% = F

### Students with Disabilities

I encourage students with disabilities, including “invisible” disabilities such as chronic diseases, learning, and psychological disabilities, to explain their needs and appropriate accommodations to me during my office hour. Please bring a verification of your disability from the Learning Skills or DSP&S Offices and counselor or specialist’s recommendations for accommodating your needs. DSP&S are located at Room 810. All appointments for testing away from the rest of the class are the sole responsibility of the student.

### Summary of All the Required Materials for both Lecture and Lab

**Items available in Cabrillo College bookstore and elsewhere:**

- Laboratory Notebook, carbonless copy; safety glasses
- 5 half sheet green scantrons
- External storage device (e.g., flash drive)
- Any nonprogrammable scientific calculator (must perform log and ln functions)
- Chemistry 1B Spring 2010 Laboratory Manual, available at Printsmith (8047 Soquel Drive) on or after the first day of class
Expected Outcomes for Successful Learners in this Course

1. **Problem-solving skills.** Students that successfully complete this course will be competent problem-solvers. They will be able to identify the essential parts of a problem and formulate a strategy for solving the problem. They will be able to estimate the solution to a problem, apply appropriate techniques to arrive at a solution, test the correctness of their solution, interpret their results and connect the solution to related concepts in chemistry.

2. **Laboratory skills.** The students that successfully complete this course will demonstrate that they have acquired fundamental skills to do research. They will be able to design and set up simple experiments, collect and analyze data, identify sources of error, and then interpret their results by drawing valid conclusions.

3. **Computer skills.** Students will have successfully employed basic computer software, including word processing, spreadsheet, data acquisition, graphing programs, to learn and represent chemistry. Navigation of the internet to obtain chemical information will also be an important computer skill.

4. **Presentation skills.** The students will express in written formal reports their understanding of core chemical principles as revealed by the data from laboratory experiments and their analysis of these results.

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**Dr. Vogel’s advice for success in Chemistry**

- Attend every lecture and lab
- Be considerate of others (students, instructors, stockroom personnel), you may need us!
- Peruse chapter before starting homework
- Use homework to take you through chapter - do 3-5 problems daily--read the sections required to do the homework
- Don’t work too long on one type of problem - work on something else until you can get help-- use my office hours, call or email me, seek help from others (This is only useful if you don’t leave everything until the last minute) - carry questions about homework with you, into lab and lecture, to study in MESA
- Reread or skim through recent notes right before lecture
- Rewrite lecture notes before the next class if necessary or possible
- Exchange phone numbers/email addresses with classmates and study as part of a group
- Remind yourself that this information will be needed in the future
- One day at a time, do something for this class everyday
- Remember that it can be done, others have done it, others thought it was hard, others hated it at times, almost all were ultimately SUCCESSFUL.

*You’re good enough, you’re smart enough and doggone it, you’re fun to be around, people like you . . .*

*Attitude is everything*