Lecturer
Dr. Roberto A. Garza
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Office Hours: To be announced and by appointment
Webpage for the course:
http://pages.pomona.edu/~ragl4747/chem1b_2009/chem1b_2009.htm

Laboratory Coordinator
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Lecture Schedule
Monday, Wednesday and Friday: 9:00 – 9:50 a.m. (section 1).
Review sessions will be held weekly, Monday at 7pm in Auditorium (subject to change)

Textbooks
The following texts are required:

- “General Chemistry Laboratory Manual,” Pomona College, Spring 2009, Chemistry 1 Laboratory Notebook, safety glasses and safety manual. Available for purchase from chemistry department stockroom. The fees will be billed to your student account.
Laboratory
The laboratory work begins **Friday, January 23**. Go to Room 111 for an orientation. The lab begins promptly at 1:15 p.m. Please purchase the laboratory manual for Chemistry 1b prior to the first week of lab and bring your lab manual to the first laboratory session. Because the first week of lab will cover an introduction to Excel, read the section on Excel and make sure that you have your login id and password before coming to lab. For subsequent labs, please bring your safety glasses and your notebook as well. If you want to change your lab section in a particular week, see Professor Yu prior to making any changes. Please contact her for all questions dealing with the administration of the lab. **See Ms. Yu before 5PM Thursday the 22th to request any permanent lab section changes, which may or may not be accommodated based on availability.** Additional information may be found on the Chem 1b laboratory website.

Grading Policy
Chemistry is a laboratory science and consequently your grade in the laboratory is worth 25% of your final grade in Chemistry 1b. A separate letter grade is determined for lecture and laboratory components and your final letter grade will be determined by a 3:1 weighted average of the two grades. In the event that the letter grade falls in the midrange between letter grades, e.g. 10.5, subjective criteria such as class participation, performance on homework and improvement in the course will be used to determine whether to round the average grade up or down. Translation: it pays to do your homework.

The grade for the lecture component will be based on the following: first midterm (125 points), the remaining two midterms (175 points per exam) and the final exam (275 points). The grade for the laboratory component will be based on your lab reports. No lab final! Attendance for all exams and laboratory sessions is required. Make up examinations are not normally given and only to those who are on an official sick list or on scheduled field trips. Students absent without a valid excuse will receive a score of zero. Examinations will cover the lectures and the assigned reading. Questions will include problems and short essays as well as probable multiple-choice questions with explanations of why you selected your answer. Proper use of English is expected. Please note tat no written work will be accepted after **Wednesday, May 6 2009**.

Homework
Since this is a problem solving course, your success depends on working on the homework assignments. Should you wish to work on problems in addition to those assigned, note that answers to selected problems are given in the back of your text. You will find two copies of second edition of the text on reserve in the Seeley G. Mudd Science Library. Other resources on reserve include two copies of “Chemical Principles” by S.S. Zumdahl and "Complete Solutions Guide for Chemical Principles". For those of you who decide to take the time to do extra problems, the effort will undoubtedly pay off. For those who choose the opposite, previous experience has demonstrated that those who fail to do homework or procrastinate until just before the exam to start working do very poorly on the examinations. Examinations are meant to challenge your abilities, not simply demonstrate proficiency. We encourage you to work in groups, and seek assistance when needed.

The homework will be checked by paper graders and will be returned in the basket outside my office. Please contact the instructor if your homework is not returned in a timely manner. Try to
hand in your homework the class period after it has been assigned. The graders will evaluate late homework but will not accept work submitted a week or more after the normal due date. You should submit the homework in the homework box assigned to your section. The boxes can be found on the wall opposite to the departmental office. There is a box for each of the 3 sections. Your name hw assignment #, and lecture section # should be written legibly on your work.

Tutoring:
Tutoring services are available via the Dean of Students Office (Alexander Hall).

Academic Honesty
Detailed information on Pomona College's policy on academic honesty is given out in the Freshman Seminars and you obviously are expected to follow the policy in Chemistry 1b. This policy does not apply to the homework exercises (we encourage you to work in groups) as the homework is not graded. An especially important academic honesty standard for Chemistry 1b is the one concerned with laboratory work- "In laboratory or research projects involving the collection of data, students accurately report data observed and do not alter these data for any reason." One purpose of college laboratory courses is to develop the proper ethical conduct in scientific work. Unethical professional practices and research fraud have ruined the careers of practicing scientists. Hence, one purpose of requiring you to turn in a copy of your laboratory data each day when you leave the lab is help remove the temptation of altering your data when preparing your final report. Cases of academic dishonesty will be reported to the Dean of Students Office in accordance with college policy.

Exam Dates and Topics Covered
All exams will be held in the classroom where they normally meet.

- **Exam 1, Wednesday, February 18**  
  Nuclear Chemistry and Atomic Structure.  
  12.5%

- **Exam 2, Friday, March 13**  
  Chemical Bonding  
  17.5%

- **Exam 3, Wednesday, April 15**  
  Coordination Compounds/Chemical Kinetics  
  17.5%

- **Comprehensive Final Exam. Wednesday, May 13, 9am-noon**  
  Emphasis on the material covered after third exam.  
  27.5%

- **Lab work**  
  25.0%

\[ \text{Total: 100.0\%} \]

*Subject to change*
<table>
<thead>
<tr>
<th>IMPORTANT DATES.</th>
<th>SPRING SEMESTER 2009</th>
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<tbody>
<tr>
<td>January 21, Wednesday</td>
<td>Add/drop begins</td>
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<tr>
<td>January 26, Monday</td>
<td>Deadline for coursework for approved Fall 2007 Incompletes to be submitted to instructors.</td>
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<tr>
<td>March 4, Wednesday</td>
<td>Suggested date by which to submit low grade notifications for Spring 2009 semester</td>
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<tr>
<td>March 12, Thursday</td>
<td>Last day to drop a course</td>
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<tr>
<td>March 16-20, Monday-Friday</td>
<td>Spring recess</td>
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<tr>
<td>March 27, Friday</td>
<td>Cesar Chavez Day observed (staff and instructional holiday)</td>
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<tr>
<td>April 2, Thursday</td>
<td>Last day to choose pass/no credit grading option</td>
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<tr>
<td>April 28-May 1, Tuesday-Friday</td>
<td>Pre-enrollment for Fall 2009 semester</td>
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<tr>
<td>May 6, Wednesday</td>
<td>Last day of classes for spring semester</td>
</tr>
<tr>
<td>May 7-8, Thursday-Friday</td>
<td>Reading days</td>
</tr>
<tr>
<td>May 8, Friday</td>
<td>Grades for graduating seniors must be submitted by noon. Last day to petition for Incomplete</td>
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<tr>
<td>May 11-15, Monday-Friday</td>
<td>Final examinations</td>
</tr>
<tr>
<td>May 15, Friday</td>
<td>Last day to enroll in a summer reading/research course</td>
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<tr>
<td>May 15, Friday</td>
<td>Spring semester ends</td>
</tr>
<tr>
<td>May 17, Sunday</td>
<td>Commencement at 10:00 a.m.</td>
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<tr>
<td>May 18, Monday</td>
<td>Residence halls close at noon</td>
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<tr>
<td>May 21, Thursday</td>
<td>All other grades must be submitted by noon</td>
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For final exam schedule, look at: [http://www.pomona.edu/adwr/Registrar/finalexamschedspring.shtml](http://www.pomona.edu/adwr/Registrar/finalexamschedspring.shtml)
<table>
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<tr>
<th>WEEK</th>
<th>DATES</th>
<th>EXPERIMENT</th>
<th>REPORT DUE</th>
<th>GROUPS</th>
</tr>
</thead>
</table>
| 1    | Jan 23 – Jan 29 | Check-in  
Excel Exercises  
MSDS Safety Worksheet | @          | All    |
| 2    | Jan 30 – Feb 5  | Electrochemical Cells                                                      | @          | All    |
| 3    | Feb 6 – Feb 12  | Neutron Activation  
Colorimetric Manganese (week 1)  
Enthalpy of Reaction (week 1)  
Gas Chromatography | *          | A, B, D |
| 4    | Feb 13 – Feb 19 | Neutron Activation  
Colorimetric Mn (week 2)  
Enthalpy of Reaction (week 2)  
Gas Chromatography | *          | C, E, F |
| 5    | Feb 20 – Feb 26 | Neutron Activation  
Colorimetric Mn (week 1)  
Enthalpy of Reaction (week 1)  
Gas Chromatography | *          | B, E, F |
| 6    | Feb 27 – Mar 5  | Neutron Activation  
Colorimetric Mn (week 2)  
Enthalpy of Reaction (week 2)  
Gas Chromatography | *          | A, C, D |
| 7    | Mar 6 – Mar 12  | Neutron Activation  
Colorimetric Mn (week 1)  
Enthalpy of Reaction (week 1)  
Gas Chromatography | *          | B, E, F |
| 8    | Mar 13 – Mar 26 | Neutron Activation  
Colorimetric Mn (week 2)  
Enthalpy of Reaction (week 2)  
Gas Chromatography | *          | A, C, D |
|      | Spring Break   | Colorimetric Mn (week 2)  
Enthalpy of Reaction (week 2)  
Gas Chromatography | *          | B, E, F |
|      | Cesar Chavez Mar 27 | Gas Chromatography | @          | All    |
| 9    | Mar 30 – Apr 3  | Molecular Modeling lab.                                                   | @          | All    |
| 10   | Apr 6 – Apr 10  | Inorganic Synthesis (Week 1)                                              | *          | All    |
| 11   | Apr 13 – Apr 17 | Inorganic Synthesis (Week 2)                                              | *          | All    |
| 12   | Apr 20 – Apr 24 | Inorganic Synthesis (Week 3)                                              | *          | All    |
| 13   | Apr 27 – May 1  | Chemical Kinetics/ Check-out                                              | *          | All    |

* = Report due by 5 pm of following day  
** = The first part of the Enthalpy of Reaction experiment is due by 5 pm two days after completing measurements in order to allow sufficient time to provide group data for the QSAR analysis.  
@ = Report due at beginning of next lab period