Chemistry 1A
Course Syllabus
Fall 2008
Lecture Section 1
MWF 10:00 am
Dr. Mack

Section 1 will be using the eInstruction response pads (a.k.a. Clickers) for F2008.
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COURSE EXPECTATIONS:
Welcome to chemistry 1A. So what’s a nice person like you doing in a course like this? Most likely, you want to be an engineer, doctor, biologist or some other type of scientist. Maybe you’re undecided about your chosen major thus far, but you enjoyed a previous chemistry course, and decided to try another one. We hope that you will enjoy this course and along the way, gain a deeper appreciation of the role that chemistry plays in our everyday lives. The following material is a very important compilation of the requirements, scheduling, point breakdown, resources, and other useful information. Please read it carefully and keep it in a convenient location for easy reference.

LEARNING OBJECTIVES:
Students will have basic chemical understanding of the following upon completion of the course:

- Dimensional Analysis and Significant figure calculations
- Atomic and molecular structure
- Molecular and chemical nomenclature
- Basic chemical calculations involving quantitative measures
- Basic chemical reactions
- Behavior of gasses, liquids, and solids
- Basic energetic and kinetic properties of chemical systems

PHYSICAL REQUIREMENTS AND CHALLENGES TO THE COURSE:

Attendance:
- Students enrolling in this course will need to attend lecture and lab with a minimum of absences. Although attendance in lecture is not mandatory, studies show that there is a very strong correlation between lecture attendance and your grade. The chemistry department estimates that a student will score one letter grade lower for every two to three days of lecture missed.
- The pace of this course is very fast. Once behind, it is very difficult to catch up since the material builds upon itself. Please be forewarned that merely attending lecture and copying the instructor’s notes does not guarantee success! The lecture period is designed to emphasize that material which is most important. The lecture is presented to help facilitate the learning of the course material; it is your responsibility to master the necessary skills to solve the problems on exams and quizzes.

Time:
- If you are taking eighteen units and working you will inevitably encounter some form of “time crunch” that will significantly affect your performance in this course. To perform well in this course, you will need to evaluate your priorities to ensure that you have enough time to study, complete homework and write up labs. If your priorities are yakking on the cell phone, computer games, online social networking and partying with your friends, then your grade in this course will be adversely affected.
Course expectations continued:

Your time is governed by the “Reality Triangle”:

The triangle governs the totality of your time commitments. You must choose only two sides. This means that if you work a significant number of hours and go to school full time, if you wish to do well at both, you won’t have much of a social life.

If you work and like to go out and play, then your academic success may be jeopardized and so on...

*Try as you might, you can’t beat the triangle!*

**Lab Work:**
- You are expected to come to lab prepared to work. The lab schedule will tell you the dates of each experiment; however you are responsible for printing out the labs yourself. Most labs have a pre-lab assignment that must be completed prior to lab. These are designed to make you read the lab! If you have questions about an experiment, get help early. Procrastination is not an option in this course. You will have plenty of time to write up your labs, I suggest that you start immediately after you complete the experiment, this way if you have questions, there will be someone available in the help office to aid you. You are expected to do your own work in the laboratory. There may be times when you will collaborate with another student to obtain data, but you need to write up the results and produce graphs and plots on your own. Copying another student’s work (including pre-lab assignments) is considered cheating which violates the CSUS policy on academic honesty.

**Homework:**
- You will need to work problems throughout the week. Waiting until Sunday night when no one is around to answer questions is not the way to approach this course. I find that the students that do their homework earlier in the week tend to earn better grades. (Wow! Really?... YES!) Please refer to the homework section of the syllabus for more information.

**Clickers:** [http://www.einstruction.com/Products/index.cfm](http://www.einstruction.com/Products/index.cfm)
- This semester section 1 (MWF 10:00 am) will use in class student response systems, otherwise known as “Clickers”. These will be available in the bookstore. I will discuss this more and have information on the chem. 1A website.

**ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES:** Reasonable accommodations including auxiliary aids and all course documents will be provided to students with disabilities when necessary to ensure that they are not denied the benefits of, excluded from participation in, or otherwise subjected to discrimination in any academic program. The University's goal is to provide an equivalent academic experience and learning opportunity, not to guarantee the outcome of the student's educational endeavor. Students with special needs must personally contact faculty directly regarding the approved accommodation(s) and provide instructors with SSWD's written verification within the first two weeks of classes or as soon as feasible for students who are
Course expectations continued:

certified within the semester. No special accommodations can be provided until such
documentation is complete and there shall be no retroactive application if the documentation is
provided later in the semester. Students must submit requests for use of the testing center facility
no later than one week prior to the exam of final.

NOTE ON WRITING COMPONENTS: The ability to communicate effectively in writing is as
important in chemistry as it is in your non-science classes. We expect that the written portions of
your assignments, quizzes, homework, and exam questions will demonstrate college level writing
technique and style. In other words, nouns, verbs, correct terminology and proper punctuation! If
we can’t read it, we won’t grade it. Poorly written assignments will be penalized accordingly.

STUDENT CIVILITY IN AND OUTSIDE OF THE CLASSROOM:

I and your lab instructors recognize you the student as an adult. As such, we will strive to treat you
with respect and dignity. In turn, we ask that you treat us, the chemistry department staff and your
fellow students in kind.
As a member of this campus, the following is expected by you:
   1. Respecting faculty, staff, fellow students, guests, and all university property, policies,
      rules and regulations.
   2. Taking responsibility for one’s choices and actions.
   3. Accepting consequences of one’s inappropriate choices and actions.
   4. Communicating in a professional and courteous manner in all forms, and at all times,
      whether verbal, non-verbal or written.

In order to achieve a positive and profession learning environment, please abide by the flowing
class policies.

Cell phones and Personal Audio devices: The chemistry department has a zero tolerance policy on
cell phones and personal audio devices in and around lectures and labs. The use of such devices in
lecture and lab is strictly prohibited. Students found using such devices will be asked to leave the
activity immediately. If a student refuses, campus police will be called to escort the student from
the building. Repeated violations will result in removal from the class. When coming to class, turn
off your personal electronic devices prior to class or better yet, leave them at home or in your car.
(You are here to learn, not goof off!)

Laptops: Laptop computers are allowed in lab and lecture for approved purposes only. Any student
found using a laptop for other than chemistry related business will be asked to leave for the
remainder of the period. If you use a laptop to take notes in lecture, pleas sit in the back row so as
to not distract others.

Emails: Emails sent to me or your lab instructor must be professional and respectful. Please clearly
state your reason for contacting and always sign your complete name and indicate the lab section
in which you are enrolled. All WHINEY emails or emails I find in appropriate will be deleted with no
reply.
Chemistry Staff: Any student that shows disrespect to the chemistry department staff (secretaries, stockroom staff etc..) will be reported to student affairs immediately. The chemistry department staff has to work with almost 1500 students so please be courteous and patient.

ACADEMIC HONESTY: (CHEATING)
Any cheating what so ever will be addressed with zero tolerance. This includes quizzes, exams, copying labs or falsifying lab data. Please refer to the university policy on such matters.

HTTP://WWW.CSUS.EDU/ADMBUS/UMANUAL/UMA00150.HTM

Please review the University’s Academic Policies for further information.

http://aaweb.csus.edu/catalog/
COURSE INFORMATION:
Lecture Instructor: Dr. Jeffrey A. Mack   jmack@csus.edu   SQU 522C   (916) 278-7094
Email: jmack@csus.edu
Office: SQU 522C
Phone: (916) 278-7094
Office Hours: TBA (see website)
Course Webpage: http://www.csus.edu/indiv/m/mackj/

LECTURE AND LAB MEETING TIMES:
Please note that you must enroll in a lab section that corresponds to the lecture: Lab sections 81-7 correspond to lecture section 1 and lab sections 9-14 correspond to lecture section 8.

<table>
<thead>
<tr>
<th>Section &amp; Call #</th>
<th>Days</th>
<th>Room</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>01   80395</td>
<td>LEC</td>
<td>MWF</td>
<td>MND1005</td>
</tr>
<tr>
<td>81   80413</td>
<td>LAB</td>
<td>MW</td>
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<td>SQU416</td>
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<td>MND1005</td>
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<tr>
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<td>LAB</td>
<td>MW</td>
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<td>MW</td>
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<tr>
<td>11   80443</td>
<td>LAB</td>
<td>TR</td>
<td>SQU416</td>
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<td>SQU418</td>
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<td>SQU418</td>
</tr>
<tr>
<td>14   80446</td>
<td>LAB</td>
<td>TR</td>
<td>SQU418</td>
</tr>
</tbody>
</table>

REQUIRED TEXT PACKAGE:
The Package includes the text, student solutions manual and OWL text code.

(OWL: Online Web–based Learning)
The OWL code may be purchased separately, see:
http://owl.thomsonlearning.com/partners/brookscole/epin.html

PREREQUISITES: High School Algebra (two years) and high school chemistry; or equivalent; or a passing grade of “C” or better in chem. 4. In addition to the course prerequisites, all students are required1 to pass the diagnostic qualifying exam administered at the first meeting of each laboratory section.
One must pass this exam with a score of 35 or greater (out of 60 questions) in order to remain enrolled in Chemistry 1A.
The exam covers algebra and simple mathematics and basic chemistry (consistent with high school chemistry or a preparatory college chemistry class).

1 Students with a C or better in chem. 4 are required to take the exam, however the outcome will have no effect on enrollment.
ADDING CHEM. 1A

Students cannot add the course via MySacState after registration closes. A student’s position on the wait-list has no bearing on priority to add the course. Chem. 1A may be added only through the Laboratory as we are limited by locker space. Once you are added to a lab section, you will be enrolled in the corresponding lecture. You may be required to visit more than one lab section in hopes of finding an open spot. The lab instructors will sign add slips at the end of the second week. All individuals adding must return the signed add-slip to the Chemistry Department office, SQU 506 as soon as possible. All students attempting to add must qualify in accordance with the policies listed on page 5 of the syllabus.

DROPPING CHEM. 1A

The student ultimately has the responsibility of dropping courses. Students may drop courses online at MySacState during the first two weeks of the semester without penalty.

All drops after the second week up to the end of the sixth week of instruction must have the approval of the instructor and department chair. These are allowed only for serious and compelling reasons. (such as illness, change in employment schedule) Carrying an excessive load or inadequate preparation for the course is not considered to be compelling... All drops after the sixth week of instruction must have the approval of the instructor, department chair, and college dean and are allowed only for career-related or medical reasons beyond the control of the student.

Courses officially dropped during the first two weeks of instruction will not be recorded on the student’s permanent record. A grade of “W” will be recorded for courses in which a drop has been authorized after the second week of instruction. Students will receive a final grade of “WU” or “F” in course(s) they fail to officially drop by the prescribed dead lines. “WU” grades will not be assigned to students who attend through the second exam. No drops are allowed after the last day of instruction.

Students who fail to check-out of their assigned locker will have a hold placed on their records in addition to being assessed a check-out fee. You will not be allowed to enroll in subsequent semesters until the fee is paid.

Please refer to CSUS webpage for deadline dates, procedures and policies. Instructors have the authority to administratively remove any student who, during the first two weeks of instruction, fails to attend any two class meetings (for courses that meet two or more times a week) or one class meeting (for courses that meet once a week).

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1 These lists were used to backfill open spots during registration and they will be emptied on the first day of classes.
CHEMISTRY 1A DIAGNOSTIC EXAMINATION INFORMATION

The CSUS Department of Chemistry uses the Toledo Chemistry Placement Examination to evaluate a prospective student’s potential for success in a university level first semester general chemistry course.

The 55 minute test consists of 60 multiple-choice questions covering the following general topics:

- Compounds & Elements
- Reactions of Matter
- Periodic Properties
- Equilibrium
- States of Matter
- Structure of Matter
- Solutions: Titrations
- Laboratory Skills
- Mathematics
- Stoichiometry

The test: The questions are based on content covered in a college preparatory high school chemistry course. Mathematical questions cover ratios, percentages, simple algebraic equations, geometric relationships and interpretation of graphs. The math questions are at the course prerequisite level of high school algebra I and II. Test questions have been checked for statistical and course grade validity.

Preparation: To prepare for the test, the department suggests a review the general chemistry topics listed above using a high school or college general chemistry text. The CSUS library contains numerous chemistry texts in the stacks; the Science librarian can help you locate these if you are new to this campus.

Scoring: A passing score of 35\(^1\) out of 60 (58.3 \%) or better is required to enroll in chem. 1A.1 A score of 35 indicates that a student statistically possesses the minimum skills needed to earn a grade of C/C- in a university level general chemistry course.

Test Times: The diagnostic test is given each semester during the first week of classes in the chem. 1A laboratory sections.\(^2\) The test will not be administered after the first week. When the lab section has completed the 55 minute test period, the lab instructor will grade the tests and return scores immediately.

Chem. 4: Students that do not achieve a passing score should enroll Chemistry 4, “Chemical Calculations”. Chem. 4 is a three unit preparatory course designed to help students develop the needed skills for success in Chemistry 1A.

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\(^1\) Students with a score below 35 that have passed chem. 4 with a “C” or better may enter chem. 1A.

\(^2\) The test will also be offered in during summer orientation and at selected time over the winter recess. Contact the Chemistry department for location and times.
GRADING:

Your final grade is based on the class distribution of the following points.

- Exams: \((3 \times 100 \text{ points})\) \(300 \text{ points}\)
- Quizzes: \((10 \times 15 \text{ points})\) \(150 \text{ points}^1\)
- Final exam: \(200 \text{ points}^2\)
- Proficiency Quiz: \(50 \text{ points}^3\)
- Clickers: \(50 \text{ points}\)
- Homework: \(50 \text{ points}^4\)
- Lab Final: \(50 \text{ points}^5\)
- Lab Experiments: \(200 \text{ points}^6\)

Total: \(1050 \text{ points}\)

GRADE DEFINITIONS:

A: Exemplary achievement of the course objectives. In addition to being clearly and significantly above the requirements, work exhibited is of an independent, creative, contributory nature.

B: Superior achievement of the course objectives. The performance is clearly and significantly above the satisfactory fulfillment of course requirements.

C: Satisfactory achievement of the course objectives. The student is now prepared for advanced work or study. Note: The letter grade “C” does not imply satisfactory achievement at the graduate level.

D: Unsatisfactory achievement of course objectives, yet achievement of a sufficient proportion of the objectives so that it is not necessary to repeat the course unless required doing so by the academic department.

F: Unsatisfactory achievement of course objectives to an extent that the student must repeat the course to receive credit.

WU: Withdrawal Unauthorized indicates that the student did not withdraw from the course and failed to complete course requirements. It is used when, in the opinion of the instructor, completed assignments or course activities or both were insufficient to make normal evaluation of academic performance possible. For purposes of grade point average, this symbol is equivalent to an “F”. Grades of “WU” will NOT be assigned to any student that has taken the second exam.

Please review the University’s Academic Policies for further information.

http://aaweb.csus.edu/catalog/current/First%20100%20Pages/ACAPOLI.asp

Your lab instructor will keep a spreadsheet with your scores and overall percent of points in the course, you need to keep track of all returned papers. A three ring binder will work well for this.

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1 The lowest 2 quiz scores will be dropped at the end of the semester.
2 To pass the course you must take the final exam.
3 Only your 1st attempt score will count towards your grade. (Please see the proficiency test policy)
4 Please see the Homework policy on extra credit.
5 To pass the course you must take the lab final exam.
6 All labs must be completed and submitted in order to pass the course. (See lab policy)
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Grading continued:

Your grade is solely determined by your overall percentage of points earned over the course of the semester. Grades cannot be determined by effort or intent. The majority of your grade is dependant upon your performance on the exams, quizzes and final. You can’t rely on homework and the lab to pass the course as the majority of the course points come from exams and quizzes. There will be **NO EXTRA CREDIT** assigned in this course other than homework\(^1\). Deadlines for assignments will be strictly enforced. No late assignments will be accepted without the lecture instructors consent.

**GRADING SCALE:** (subject to adjustment)

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90.0 to 100%</td>
<td>A to A</td>
</tr>
<tr>
<td>80.0 to 89.9%</td>
<td>B to B+</td>
</tr>
<tr>
<td>70.0 to 79.9%</td>
<td>C to C+</td>
</tr>
<tr>
<td>50.0 to 69.9%</td>
<td>D to D+</td>
</tr>
<tr>
<td>&lt; 50 %</td>
<td>F</td>
</tr>
</tbody>
</table>

Since chem. 1A is a precursor course to chemistry 1B, the grading scale is set to ensure that students earning a grade of “C” or better have the minimum probability to pass chem. 1B.

How you are graded and to which standard you are graded in your other courses has no bearing upon how you will be assessed here. And, don’t ask me to “curve” the grades; you likely don’t know what that means...

**LECTURE POLICY:**

As previously stated, mere attendance of lecture WILL NOT guarantee success in the course. We estimate that you will need to spend a minimum of ~15 hours of time OUTSIDE of class reading, working problems and completing labs each week. This means that you will need to commit ~24 hours of your time just to this course, which leaves a limited amount of time for other activities. Since you have chosen to attend college, there are certain sacrifices you must make in order to succeed. It is up to you to identify what your priorities are in order to be successful in this course.

**CLASSROOM ETIQUETTE:**

Any student who disrupts the class will be asked to leave. This is a college course and I expect you to behave with the maturity and respect that adults afford one another. No talking will be permitted unless it concerns class business. The use of cell phones, laptops and other personal electronic devises in the classroom is strictly prohibited. Please be sure that your cell phone is turned off prior to entering the classroom. Repeated disruptions will result in dismissal from the course. If you must leave lecture early, please notify your instructor prior to class. Also, repeated tardiness that disrupts the class will not be tolerated.

\(^1\) Please refer to the homework section in this syllabus
Lecture policy continued:

NOTE TAKING:
The lecture portion of the course is intended to be a secondary presentation of the material that you are responsible for mastering. You need to have at a minimum read through the sections of the text that correspond to the lecture material prior to class in order to maximize the lecture learning experience. Ideally, you will have started working on your homework as well. The lectures for this course will be presented using PowerPoint. I WILL NOT post the notes prior to class as I want to engage you during lecture, a task that is not effectively achieved if you are staring at a piece of paper. The lecture notes will be posted by the end of the day on my website in .pdf format for your review.

To get the most out of lecture you need to listen and take NOTES. Notes are references that you can use to cue your reading in the text. NOTES are not verbatim copies of my presentation. Copying what I do in lecture is not an effective way to learn chemistry. You must read the material prior to class, come to class then read the material again until you master it. I will focus on the topics and subjects that I feel you need help with. I cannot cover every concept in the text, nor should I as the onus of learning in college is on you and you alone. I do promise than when working though examples, I will give you ample time to write down the pertinent information.

HOMEWORK:
Homework will be assigned and recorded using the OWL (Online Web-based Learning) component of your text package. When you purchase the text package, you will find information and a login password that will direct you to the OWL website. DO NOT LOSE THIS INFORMATION! If you purchase the text elsewhere, I will have links to the OWL system on my chem. 1A homepage. From time to time I will assign additional homework via the OWL system in the form of pre-lecture tutorials and post-lecture problems as extra credit. There will be limited window of time to complete these, so you need to check the OWL site often to see when they pop up. Credit for these problems will apply to your homework percentage up to a maximum of 100 % of, but not above the total (50 points). No late homework will be accepted and you may not turn in your work on paper. Please direct any issues with the OWL system to the OWL help desk as I do not manage the system. The OWL system is easy to work especially after you go through the required tutorials. If you can operate a cell phone, mp3 player and surf the web, then you can certainly make OWL work! (NO WHINING!) Please see the information provided at the end of this syllabus or on the homework page of the website before logging on to the OWL system.

EXAM POLICY:
There will be three 50 minute lecture exams given (one approximately every four weeks). The exams will be based on concepts covered in the text, lecture and lab with problems DIRECTLY taken form HW, lecture examples and lab calculations.

No late or make up exams shall be offered. If you cannot make an exam date, you may take the exam early so long as you give me a week’s notification.
Lecture policy continued:

I will not provide you with a “practice exam” as I respect you in that feel that you have the ability to learn the material on your own. Practice exams enable poor study habits, period. There are more than enough problems in your text to adequately prepare you for any exam. It is your responsibility to work through the homework and as many additional problems as it takes for you to understand the material presented in this class. There are also many additional resources available in the library and on the Internet.

For each exam you will be provided with a series of review problems one week before the exam. These problems will be representative of the concepts covered in the exam, however they are not “just like” the exam problems. It is your responsibility to work on these prior to the review discussion in lab. (see the lab schedule)

**No make up exams will be offered:** You are more than welcome to take an exam early if need be depending on the circumstances. Any missed exam due to a valid incident or documented sickness will be dealt with on a case-by-case basis. You need to contact me as soon as possible regarding an exam absence. Without verification, you will receive a zero on the exam. Documentation includes: Signed letters from a physician on letterhead, police reports etc... In the case where an exam is missed, it will be deducted from your overall total. (This however puts more weight on the rest of your work).

**No Note cards will be allowed:** All of the exams and quizzes are closed book. You will need to bring a calculator and pencil (which I prefer) to each exam. Scratch paper, basic equations, needed scientific constants and periodic tables will be provided. In this course, the information presented builds upon itself such that the material covered in one unit will be integrated into the material on the next and so on. Consequently, the questions on each exam will become successively more complex and involved. If you desire to earn a high mark in this course, you must keep up with the material as outlined in the lecture schedule. It is almost impossible to catch up once you get behind.

**FINAL EXAM POLICY:** The final exam will be comprehensive. All students must take the final in order to pass the course. No late or make up final exams shall be offered after finals week is over.

**LABORATORY:**

You will be required to download and print out laboratory materials throughout the semester from:

http://www.csus.edu/indiv/m/mackj/chem1A/

It is your responsibility to have the appropriate printed materials when you come to lab. There are multiple computer laboratories on campus for your use.

Prior to leaving you lab, you are required to obtain initials form you lab instructor on any data accumulate in that days experiment to verify your attendance.
Laboratory Policy continued:

LAB ABSENCE:
Attendance in laboratory is mandatory. You must complete each lab activity and turn-in each laboratory write-up in order to pass the course. You are allowed one lab absence without documentation. (You must make the lab up, this is not a free day off!) After that, you need written verification to be excused from a missed lab.

If you do miss lab, **it must be made up within one week**. You must attend a laboratory section other than your own (with the instructor’s permission). The instructor of the laboratory in which you make up your lab must sign your data sheet. Any unexcused absences may not be made up. You will receive a zero for the missed experiment. You cannot hop from lab to lab because you overslept or you did not feel like going to lab on a given day.

PRE-LABORATORY ASSIGNMENTS:
Most of the experiments have pre-lab assignments that must be completed before coming to lab to perform the associated experiment. Before attempting the pre-lab assignment, **READ THE EXPERIMENT!** Most of the answers are in the EXPERIMENT! The pre-lab assignment is due at the beginning of the lab period. **DON’T WAIT UNTIL THE LAST MINUTE TO WORK ON YOUR PRE-LAB!** It is hard to get help on Sunday night at 11:37 pm. (I’ll be asleep) If your pre-lab assignment is blank or incomplete, you will not be allowed to perform the lab and you may not take the quiz. If the pre-lab is late, you still must turn it in; however, it will receive zero points. (One nanosecond after the lab starts is considered late!

LAB SCORING:
At the end of the semester, the sum of your lab points will be normalized to a total of 200 points (20% of your grade). For example, if you earned 85% of the assigned points, then 170 points would be added to your overall point total. Your lab grade will not carry you through this course. You need to at minimum average ~70% of the exam, quiz and final points to pass. Some of the exam materials will come directly from the lab calculations. It is in your best interest to know how to do these on your own. This cannot be accomplished if you copy another student’s work.

Laboratory reports are due at the beginning of the lab one week following the completion of the experiment. (Some experiments will be due at the end of the period) You have plenty of time to write up your lab, **DO NOT PUT IT OFF!** In order to pass the course, all labs must be submitted by the end of the semester. If a student fails to submit (completely and legitimately) even one lab, that student fails the course regardless of overall score. Labs that are submitted incomplete will be returned to the student immediately with an automatic 20% deduction of points (in addition to any subsequent deductions upon grading). The lab must be resubmitted by the next lab period in order to be eligible for grading. After such time, the lab must still be submitted; however it will be scored with a zero.

CHEATING IN LAB:
Any students found using one another’s data, graphs or calculations will receive a score of zero for the lab for the first violation. (This includes all persons involved.) Subsequent violations will result in those involved being remanded to student affairs for violation of CSUS academic honesty.
Laboratory Policy continued:

policies. The consequences can range from removal from the course to expulsion from the university. Students submitting made-up labs with no instructor signatures are considered to be in violation of the above policy.

LAB FINAL:
In the last week of lab there will be a 50 point lab final that cover concepts and calculations emphasized throughout the lab. You can prepare for this by reviewing you returned labs. All students must take this exam in order to pass the exam.

PROFICIENCY EXAM:
A proficiency exam covering nomenclature and units will be administered in lab during the 3rd week (see lab schedule). We believe that mastery of these topics is essential for successful continuation in the course. As a result, you are required to obtain a 70% or better on the proficiency exam in order to obtain better than a C- in the course. You will be allowed to take the exam three times. However, only the score obtained on your first trial will be used in calculation of your final grade. In other words, study and do well the first time! If you do not pass the exam after three attempts, the highest grade you can earn in the class is a C-. (Odds are that if you don’t pass the exam after three tries, you will not likely pass the course)

QUIZZES:
Quizzes over the lecture and laboratory material will be given weekly at the beginning of lab. If you are late to lab and miss the quiz, you may not make it up. If you are absent from lab, you may not make up your quiz in another lab section. Your lowest two quiz scores will be dropped at the end of the semester. The quizzes are offered to give you feedback as to your progress in the course. If you are not scoring well on the quizzes, then you will likely do poorly on the exams. Often, topics found on the quizzes will appear on the exams so take the time to review your errors and mistakes!

SAFETY:
You will be given a safety presentation during the second week of lab. You will then sign a “contract” promising to abide by the safety rules of the laboratory. Failure to follow the safety rules will not be tolerated. (A copy of the safety policy is provided at the end of this syllabus)

SAFETY GOGGLES:
Approved safety goggles are required. (consult your instructor if you have questions.) You will be required to wear approved safety goggles whenever glassware or reagents are out in the lab regardless of what you are doing. Safety glasses are not approved for student use. Repeated violations will result in dismissal form the course.

Please remember treat your laboratory instructors and stockroom staff with the respect that you would give any professor. Remember, if you treat others with respect, then they in turn will treat you with respect.
RESOURCES FOR HELP:
Your professor and the lab instructors will hold office hours each week. Lab instructor office hours are held in Sequoia Hall, room 502. These office hours will be posted outside the HELP Office and on the web. You are welcome to go to ANY of the Chem. 1A TA office hours that fit your schedule. Try not to abuse the HELP office or the TA office hours. They are there to help you learn, not to write-up your lab reports or do your homework for you!

HINTS:
- Plan to spend at least 15 hours per week outside of class time studying chemistry. Chemistry is a challenging subject that requires considerable time to master. Develop a study schedule and stick with it.
- Do as many problems as possible. Problem solving is one of the most effective ways to master this material.
- Read the assigned text section the instructor is going to cover each day before going to class. The lectures will be more beneficial if you have done a little preparation.
- Review your lecture notes the evening after each lecture to make sure you understand the material presented.
- Do not wait until the last minute to do your homework or laboratory assignments. If you wait until the last minute, you will not have time to get help.

IMPORTANT DATES:
- Instruction Begins: September 2, 2008 (labs will meet during the 1st week)
- Last day to drop via MySacState: September 12, 2008
- Exam 1: Section 1: 10/1/08  Section 8: 10/2/08
- Last day to drop with a “W” October 10, 2008
- Exam 2: Section 1: 10/29/08  Section 8: 10/30/08
- Veterans Day (no classes): November 11, 2008
- Thanksgiving: November 27 & 28, 2008
- Exam 3: Section 1: 11/26/08  Section 8: 11/25/08
- Final Exams: Section 1: Monday 12/15/08 (10:15a - 12:15p)
  Section 8: Thursday 12/18/08 (12:45p - 2:45p)

COMPUTER LAB LOCATIONS
- AIRC 2004 - This lab is located on the second floor of the Academic Information Resource Center.
- Library 2000 - This lab is located on the second floor of the Library.
- Mendocino 2004 / 2008 - These labs are located on the second floor of Mendocino Hall.
- Mendocino 2003 / 2007 - These labs are located on the second floor of Mendocino Hall.
- Solano 2001 / 2003 - These labs are located on the second floor of Solano Hall.

Help Desk Location: AIRC 2005
Setting up a SacLink account: http://www.csus.edu/saclink/settingUp.stm
My website: http://www.csus.edu/indiv/m/mackj/
The text OWL website: http://owl11.cengagelearning.com/
# LECTURE SCHEDULE:

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Lecture Topics</th>
<th>Text Chapters</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td>Chapter 1 and &quot;Lets Review&quot; are covered in lab during week 2</td>
<td>1</td>
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<tr>
<td>1</td>
<td>Sep 1 - 5</td>
<td>Atoms &amp; Elements</td>
<td>2</td>
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<tr>
<td>2</td>
<td>Sep 8 - 12</td>
<td>Molecules, Ions &amp; Compounds, Chemical Equations</td>
<td>3, 1</td>
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<tr>
<td>3</td>
<td>Sep 15 - 19</td>
<td>Reactions in solution, Stoichiometry</td>
<td>3, 4</td>
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<tr>
<td>4</td>
<td>Sep 22 - 26</td>
<td>Stoichiometry, Energy &amp; Chemical Reactions</td>
<td>4, 5</td>
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</tbody>
</table>
| 5    | Sep 29 - Oct 3 | Energy & Chemical Reactions  
Exam 1  
Section (1) Wednesday (Oct 1)  
Section (8) Thursday (Oct 2) | 5             |
| 6    | Oct 6 - 10  | Energy & Chemical Reactions, Gases and Their Properties                      | 5, 11         |
| 7    | Oct 13 - 17 | Gases, Atomic Structure                                                       | 11, 6         |
| 8    | Oct 20 - 24 | Atomic Structure                                                              | 6             |
| 9    | Oct 27 - 31 | Electron Configurations and Periodic trends  
Exam 2  
Section (1) Wednesday (Oct 29)  
Section (8) Thursday (Oct 30) | 7             |
| 10   | Nov 3 - 7   | Bonding and Molecular Structure (I)                                            | 8             |
| 11   | Nov 10 - 14 | Bonding and Molecular Structure (II)                                           | 9             |
| 12   | Nov 17 - 21 | Bonding, Intermolecular Forces                                                | 9, 12         |
| 13   | Nov 24 - 28 | Intermolecular Forces, Properties of Liquids  
Exam 3  
Section (1) Wednesday (Nov 26)  
Section (8) Tuesday (Nov 25) | 12            |
| 14   | Dec 1 - 5   | Solutions and Their Behavior, Chemical Kinetics                               | 14, 15        |
| 15   | Dec 8 - 12  | Chemical Kinetics                                                            | 15            |
|      | Final Exams | Section 1\(^4\) (MWF 10 am) Monday Dec. 15 10:15am - 12:15pm  
Section 8 (TR 1:30pm) Thursday Dec. 18 12:45pm - 12:45pm |               |

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1. Skip Ch. 3.9  
2. Students in section 1 MAY NOT take the exam in section 8 without prior instructor approval. (and vise versa)  
3. Skip Ch. 14.5, Ch. 14.4 will be covered in lab.  
4. Students in section 1 MAY NOT take the exam in section 8 without prior instructor approval.
## LAB SCHEDULE:

All Lab Materials are found on the chem. 1A website

<table>
<thead>
<tr>
<th>Week</th>
<th>Monday / Tuesday</th>
<th>Wednesday / Thursday</th>
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<tbody>
<tr>
<td>1</td>
<td>1-Sep</td>
<td>3-Sep</td>
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<tr>
<td></td>
<td>Diagnostic exam</td>
<td>Diagnostic exam</td>
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<td>2</td>
<td>8-Sep</td>
<td>10-Sep</td>
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<tr>
<td></td>
<td>Ch. 1 and 2: Significant figures and dimensional analysis worksheet&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Nomenclature discussion &amp; worksheet&lt;sup&gt;1&lt;/sup&gt; (ch. 3.3, 3.4), safety lecture &amp; Check-In, Quiz 1</td>
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<tr>
<td>3</td>
<td>15-Sep</td>
<td>17-Sep</td>
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<td>Experiment 1, First Proficiency quiz</td>
<td>Experiment 2, Quiz 2</td>
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<tr>
<td>4</td>
<td>22-Sep</td>
<td>24-Sep</td>
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<td></td>
<td>Experiment 3 (Part 1): Net ionic equation discussion, Second Proficiency quiz</td>
<td>Experiment 3 (Part 2), Quiz 3</td>
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<tr>
<td>5</td>
<td>29-Sep</td>
<td>1-Oct</td>
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<td>Exam 1 Question Session, Quiz 4</td>
<td>Experiment 4, Last proficiency quiz</td>
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<tr>
<td>6</td>
<td>6-Oct</td>
<td>8-Oct</td>
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<td>Weigh dried product from Exp. 4, Practice Titration</td>
<td>Experiment 5, Quiz 5</td>
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<tr>
<td>7</td>
<td>13-Oct</td>
<td>15-Oct</td>
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<tr>
<td></td>
<td>Thermochemistry Discussion &amp; Graphing Tutorial&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Experiment 6 (part 1), Quiz 6</td>
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<tr>
<td>8</td>
<td>20-Oct</td>
<td>22-Oct</td>
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<td>Experiment 6 (part2)</td>
<td>Experiment 7, Quiz 7</td>
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<td>9</td>
<td>27-Oct</td>
<td>29-Oct</td>
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<td>Exam 2 Question Session, Quiz 8</td>
<td>Experiment 8</td>
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<tr>
<td>10</td>
<td>3-Nov</td>
<td>5-Nov</td>
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<td>Experiment 9, Quiz 9</td>
<td>Experiment 10</td>
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<tr>
<td>11</td>
<td>10-Nov</td>
<td>12-Nov</td>
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<tr>
<td></td>
<td>Experiment 11, Quiz 10&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Experiment 11, Quiz 10&lt;sup&gt;3&lt;/sup&gt;</td>
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<tr>
<td>12</td>
<td>17-Nov</td>
<td>19-Nov</td>
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<tr>
<td></td>
<td>Experiment 12</td>
<td>Exam 3 Question Session, Quiz 11</td>
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<tr>
<td>13</td>
<td>24-Nov</td>
<td>26-Nov</td>
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<tr>
<td></td>
<td>Colligative Properties Discussion&lt;sup&gt;2&lt;/sup&gt; (Ch. 14.4)</td>
<td>Thanksgiving, no labs</td>
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<tr>
<td>14</td>
<td>1-Dec</td>
<td>3-Dec</td>
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<tr>
<td></td>
<td>Experiment 13</td>
<td>Experiment 14, Quiz 12</td>
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<tr>
<td>15</td>
<td>8-Dec</td>
<td>10-Dec</td>
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<tr>
<td></td>
<td>Experiment 14 (cont.)</td>
<td>Lab Final, Check out and Evaluations</td>
</tr>
</tbody>
</table>

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<sup>1</sup> Download from the chem. 1A Lab page on the website.

<sup>2</sup> Attendance is mandatory

<sup>3</sup> No labs Tuesday 11/11 & Wednesday 11/12 (Veterans Day)
LABORATORY SAFETY POLICIES

I. SAFETY
   a. Familiarize yourself with the location and use of all safety equipment and emergency exits in the laboratory.
   b. Eating and drinking are not allowed in the laboratory at any time.
   c. Visitors are not allowed in the laboratory; leave the room for the duration of the visit.
   d. YOU MUST:
      • Wear department approved safety goggles at all times when in lab. Shields are never allowed!
      • Wear shoes that completely cover your foot when in lab.
      • Wear appropriate clothing that covers your skin or wear a lab coat when in lab.
      • Long hair must be restrained to prevent fire hazard.
   e. For chemical spills
      • On your skin rinse the area thoroughly for at least 15 min and report incident to your instructor and the stockroom.
      • For splashes into the eyes rinse using the eyewash for at least 15 minutes, and notify your instructor and the stockroom.
   f. Working in laboratories outside of the regularly scheduled periods is strongly discouraged. When such work is necessary, the written permission of both instructors is REQUIRED.
   g. Students in lower division laboratories are not to work in the laboratory unless an instructor is immediately available (i.e. in the lab).
   h. Students in upper division laboratories are not to work in the laboratory unless an instructor is available in the vicinity (i.e. on the floor).
   i. Experiments using utilities such as gas, water, steam, heat, etc. are not to be left unattended. If it is necessary to use these utilities overnight, you must attach a card signed by your instructor to the apparatus and notify the Chemistry Stockroom.
   j. Broken glassware must be placed in the "glass disposal boxes" provided.
   k. Unauthorized experimentation is prohibited!
   l. NO CHEMICALS, SUPPLIES, OR EQUIPMENT ARE TO BE REMOVED FROM THE LABORATORY WITHOUT THE WRITTEN PERMISSION OF THE INSTRUCTOR AND THE STOCKROOM SUPERVISOR.

II. PREGNANCY
Women that are, or may become pregnant should carefully determine, upon consultation with your personal physician or the Student Health Service Center, if it is advisable for them to participate in the laboratory program. If you are pregnant or are planning to become pregnant please inform your instructor.

III. CHEMICALS
   a. Treat all chemicals as if they were hazardous.
   b. It is the student's responsibility to know the hazards of the chemicals used in the lab. This information is located in the chemical's MSDS (material safety data sheet), which can be obtained from the kiosks at the north end of the 4th and 5th floors of Sequoia Hall.
Laboratory Safety continued:

c. Students are encouraged to practice good chemical hygiene by washing their hands after lab, and before eating, drinking or smoking.
d. Never put chemical waste down drains or in the trash receptacles. Use appropriately labeled waste containers.
e. If a chemical waste container is almost full, immediately notify your instructor or the Stockroom. DO NOT OVERFLOW THE WASTE CONTAINER!
f. Never put anything (i.e. spatulas, pipets, fingers, etc.) into a reagent bottle. Place any unused reagents in the appropriate waste container; DO NOT return it to the bottle.
g. Always return chemicals to their appropriate location.
h. NEVER remove or borrow chemicals from another laboratory.
i. If a required chemical is not available or needs to be refilled, notify your instructor.
j. If chemicals are spilled, clean up the mess immediately. This especially includes spill on or around balances and other equipment. If you are unsure of how to clean up a spill, seek assistance from your instructor or the Stockroom.

IV. EQUIPMENT

a. DO NOT use any equipment until you have been properly instructed in its use.
b. DO NOT move ANY piece of equipment without the permission of your instructor.
c. DO NOT attempt to alter or repair any piece of equipment. If it is not in proper working order, inform your instructor.
d. Clean all equipment immediately after you have finished using it, and if it was borrowed or checked out, return it immediately.
e. Because of the limited number of certain items. Special equipment issued by the Stockroom must be returned the same day or a fine of $5.00 will be assessed.

V. STOCKROOM

a. The Chemistry Stockroom staff WILL NOT issue chemicals or equipment (other than those specifically listed for an experiment, student locker or instructional laboratory) without the consent of the instructor.
b. The Stockroom staff WILL NOT set-up labs after they have been taken down. It is best not to miss your regularly scheduled lab time.

VI. EMERGENCIES

In the event of ANY EMERGENCY, notify your instructor, and the Stockroom personnel immediately! Dial 911 for emergencies, or 8-6851 to reach campus police on any campus phone. Emergency phones are located in the lobbies of each floor in Sequoia Hall.

**Failure to follow these policies will result in your removal from lab!
TEN WAYS TO PASS YOUR NEXT CHEMISTRY EXAM:

1. Don’t bother cramming. It won’t work. Cramming puts things into your short term memory. If you’re pressed for time and exhausted, it’s even more short term. You should study throughout the week before the exam so that when the day to take the exam comes, you will feel confident of your preparation.

2. Practice. You can’t memorize a page of a German dictionary every day and expect to be able to speak the language next week. You have to use the vocabulary you’ve learned in context, or it will slip away almost as fast as you learn it. The same is true of chemistry. You must work as many problems from the text and notes as needed to assure proficiency.

3. Study your notes and your textbook carefully. Then close your books and sit on them. Take out a sheet of paper and begin outlining the material you have been studying. You’ll see quickly where further study is required. You must do the same thing in solving problems from the end of the readings. Do not look at worked examples as templates. Simply substituting numbers from your problem into the corresponding places the example sometimes gets you the right answer, but you won’t know why. If you study this way, when you are presented with a minor variation in the problem on a test, you won’t be flexible enough to handle it.

4. Get the big picture. Go over the lecture notes, handouts, problem sets, and laboratory work carefully and integrate all of these materials in your notes. Organizing the material will help you see connections and get the material into your long-term memory. However, don’t spend too much time simply making your integrated notes look good - there’s little satisfaction in being the neatest C student in the class.

5. Get help! You’re going to get stuck. There will be topics you just don’t understand, and problems you just can’t solve. This is what office hours are for. Attend them and don’t be afraid to let your problem be known. Your instructor is being paid to help you. Make him work for his money. He doesn’t mind. Please don’t wait until the day of the exam to get help!

6. Give yourself a test. Take several problems from the chapters, write them out on a separate piece of paper and find out how long it takes you to work them. Do not use your book or notes; this will only hinder you in getting “exam ready”.

7. Study what you know best first. If you are pressed for time, you may have a hard decision to make. Should you concentrate first on those topics that you don’t understand well at all, or on those areas where you have some understanding? Ideally, you’d be able to study both, but if you’re out of time, you should study the areas where you have some understanding first. You must adopt this harsh philosophy because when standardized tests are used (as they are, in chemistry) you can expect to receive little partial credit.

8. Focus on objectives. “Learning Objectives” in the text chapters tell you exactly what concepts you’re expected to learn and what skills you must master. Use those lists as a pre-exam checklist.

9. Manage time. You must spend at least an hour or two every day studying chemistry. Get a daily planner and find a 1 — 2 hr block where you can focus on chemistry. This doesn’t include the actual time you spend in lecture and in laboratory, or even the time you spend writing laboratory reports or completing problem sets.

10. Relax! You can do this. Avoid negative and panicky classmates when choosing study partners. On the night before the exam, pack a couple of sharpened pencils and a working calculator for the next day, and go to bed early. Lack of sleep can magnify test anxiety. Give yourself plenty of time to get to the exam site. Get there early.