SUCCESS IN CHEMISTRY
- Willingness to work hard
- Willingness to seek help from instructor and fellow students
- Well-organized work habits
- Freedom from extraneous distractions
- Analytical and critical thinking skills
- Attention to detail
- Personal interest in chemistry
- Creativity
- Reasonably good health

COURSE HINTS
The following suggestions are things that YOU can do to make this course better for YOU, the student.
- Chemistry is NOT a spectator sport. YOU must actually do the assigned problems ON YOUR OWN.
- Read the assignments PRIOR to coming to class. Reading assignments are listed in the Course Schedule.
- See the instructor BEFORE you get behind. Don't wait until you fail a test to get help. We don't bite!
- When you see us for help, bring your attempts at solving the problems, notes, and calculator. This course does not try to be encyclopedic, but neither does it assume that you have to be spoon-fed: you are expected to be a serious student and a careful reader. This means that you are expected to work out all of the examples for yourself, and do all of the problems.

COURSE REQUIREMENTS
- To read all assigned topics listed in the lecture syllabus.
- To attend all lectures.
- To work all assigned problem sets and turn in any requested problems.
- To take all required tests and exams.
- To perform all assigned laboratory exercises and turn in completed laboratory reports and quizzes as assigned. Laboratory reports and quizzes must be handed in at the end of the assigned laboratory period unless instructed otherwise by the instructor. No credit is given for late laboratories.

EMPHASIS
Fundamental concepts of dimensional analysis, stoichiometry, atoms, molecules, periodic law, chemical reactions, and solution concentrations.

GENERAL OBJECTIVES
- To understand the fundamental concepts of atomic structure.
- To acquire a knowledge of periodic law and to predict properties of elements and chemical reactions from the periodic table.
- To acquire a skill in mathematical calculations for chemical relationships.
- To understand the fundamental concepts of molecular structure and bonding.
- To understand the fundamentals of kinetic molecular theory.
- To acquire a skill in mathematical calculations for applications to the gaseous state and solution chemistry.
- To acquire a knowledge of the nature and behavior of electrolytes.
- To understand and perform mathematical calculations of equilibria.
- To survey the properties of the elements.
- To understand and utilize elementary chemical kinetics.

These are listed in more detail in the course competencies.

GRADING
- Lecture - (50%) of total grade: generally a minimum of 60.0% is required to pass CHEM 1110.
- Lab - (30%) of total grade: usually minimum of 60.0% required to pass CHEM 1110
- Final exam - (20%) of total grade comprehensive 2 hour exam
- minimum of 50.0 on the final is required to pass CHEM 1110
- The score on the final exam and a marked improvement over the semester may impact the final grade.
LECTURE
Classroom time is precious. Therefore ALL classroom activities must be directed toward chemistry. Due to the amount of material to be covered in this course you need to make a very conscientious effort not to get behind in your studying. Some of the material to be covered is quite complicated and can be difficult to learn. KEEP UP-TO-DATE.

LEARN IT NOW.
AT LEAST one to two hours of studying SIX days per week are needed by most students. Some studying EVERY day is much more beneficial than an equivalent amount of time at the end of the week. Everyone is encouraged to ask questions in and out of class or provide information that may be of interest to all students. PLEASE come by for any extra help you may need. Form study groups: your fellow students can be excellent resources for that unanswered question. YOU can be of great help to your classmates.

Tests and Quizzes
Tests and quizzes including bonus team problems covering chemistry subject matter.

Extra Credit
2 points for first person to report each error found in lecture notes, problem sets, handout sheets, solution keys, web page etc. submitted in writing by test date covering that material; added to current test score up to a maximum of 30 points. Between 31 and 50 points 1 point will be given for each error. Points are NOT given for lab manual errors but please indicate errors in the lab manual.

Additional extra credit may be given for other activities that may include attending technical events, talks and participation in the Student Chemical Society.

Chemistry grade =
\[ 0.50 \times \text{lecture average} + 0.30 \times \text{lab average} + 0.20 \times \text{final exam score} \]

CHEATING POLICY
All papers turned in for a grade are to be the effort of EACH STUDENT INDIVIDUALLY, unless EXPLICITLY designated as a team effort. Laboratory unknown samples may not be used by more than one student. The consequences for a student caught cheating are totally at the discretion of the instructor. The consequences are completely arbitrary and uniform enforcement or uniform consequences are not required nor promised. Consequences may include a recommendation of expulsion to the dean. For a first offense all identical papers will AUTOMATICALLY receive a zero, regardless of who is the cheater or cheatee.

Attendance
In general, you must attend 60% of all lecture and lab sessions to pass. Missing more than 4 labs may result in a failing grade.
STUDY TECHNIQUES

Your chemistry study habits should follow the plan listed below to perform to your best potential.

- On the day BEFORE the material is to be presented, read the assigned material in the text. You do not need to read for mastery of problem solving skills, but you need to read to be familiar with the material especially terminology, concepts to be covered and general approaches to problem solving. We will work on problem solving skills in class, but by reading the material beforehand, the lecture will be MUCH MORE COMPREHENSIBLE. This will require two to three hours per week. Prepare an initial outline/notes as you read.

- Since the lecture notes are available on the web, you have two options:
  - If you are a poor note taker, you may want to bring a copy of the notes or slideshows to lecture. This way you can listen more closely and add notes to my notes as you see fit. Also, you may want to tape the lecture so that you can listen to what is being said when you study the notes at home.
  - If you can take notes and listen, you may prefer to not look over my notes until you have been to lecture. This is the preferred method of note taking since you will retain the material better if you actually take the notes yourself.

- The third step is to review and master material in your notes prior to starting the problem sets. This will take another one to two hours per week.

- Now you are ready to start working the problem sets. You should try to work the problem sets without using ANY notes or the text. If you have to depend on your notes to work the problem sets, then you will NOT be able to work the problems on the tests. It is VERY IMPORTANT that you do the problems DAILY. That is, the problem sets that were covered today should be done PRIOR to the next class meeting. Since chemistry is a cumulative subject, it is imperative that you DO NOT get behind.

- Do not spend more than 15-20 minutes on any single problem without some progress after trying several approaches. After that time, try another problem and come back to the first later. Difficulty usually increases from the beginning to the end of a problem set. If success has not come after trying a couple of problems, take a short break (do your homework in another subject, get a cup of coffee, take a walk etc) and come back to chemistry. If you still cannot get started on the easier problems, restudy your notes and the text and then try again. If you are still having difficulty, ASK FOR HELP IMMEDIATELY from fellow students or from me. Do not delay getting help as chemistry is cumulative and you will rapidly fall behind. DO NOT get behind.

- A word of caution about the use of the solution manual keys. Students in the past have relied heavily on the answer keys. THIS IS A BIG MISTAKE. When working the problem sets, don't cheat yourself by just "following along" with the answer keys. This will give you a false sense of security that will ultimately lead to your downfall. You must be able to work the problems on your own, using the answer keys only to check your results or look at ONLY THE NEXT STEP to get you going.

- Working the problem sets will take another six or more hours most weeks.

As you can see, I expect and require you to put a lot of time into preparing for chemistry. Your knowledge will determine your success in chemistry. GOOD LUCK and I hope that you enjoy your introductory chemistry course.