

Norris High School  
Chemistry

2007-08 School Year

**GENERAL INFORMATION**

Course Name: Chemistry  
Instructor: Matt Heibel  
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**COURSE DESCRIPTION**

Chemistry is the study of matter, its structure, and its changes. Chemistry can be grouped into four general areas, or topics, that we will study this year. The first topic is the structure of matter, specifically atoms, their structure, properties and arrangement in the periodic table. The second topic is the interactions of matter, how atoms combine to form molecules, how this combination will determine the properties of the molecule, and how chemical reactions are represented. The third topic is the states of matter and mixtures of substances, including the unique characteristics of the different phases of matter and how they combine in mixtures. The fourth topic is chemical equilibrium, including acid/base and electrochemical reactions. We will cover roughly chapters 1-10 in the first semester and chapters 11-21 in the second semester.

**COURSE GOALS AND OBJECTIVES**

1. To motivate, instruct, and excite students about the science of Chemistry.
2. To help students see the beauty, order, and structure of nature through the study of the discipline of Chemistry.
3. To help students see how Chemistry applies to their everyday life.
4. To actively involve students in their study of Chemistry.
5. To encourage and equip students to use higher order processing and thinking skills.
6. To give students the skills needed to perform necessary tasks in a beginning Chemistry laboratory.

**TEXTBOOK AND MATERIALS**

Textbook - Wilbraham, Staley, Matta, and Waterman. Prentice Hall Chemistry. Prentice Hall, Upper Saddle River, New Jersey, 2005.

Materials - **Scientific Calculator**

Notebook or paper

A folder or binder that will be used to keep notes, homework papers and lab reports

A pencil

## EXPECTATIONS OF THE STUDENT

1. Take pride in yourself, your classmates, and your school. ***Do your best at all times.***
2. Be ready to begin class when the bell rings and have the proper working materials ready. Be prepared for a full period of class each day. Don't ask to go to your locker to get something you forgot.
3. ***Assignments are due at the beginning of the period on the day they are due.*** Homework assignments may not be turned in for a late grade. Late lab reports will be graded at a reduced rate if turned in late. ***You are responsible for making up work missed when you are absent.***
4. Students missing school because of previously approved absences (appointments, field trips, athletic contests, vacations, etc.) must make arrangements for turning in and making up work prior to that absence. Students missing school for sickness or other unforeseen reasons will work with the instructor to make up work missed. The usual rule is if you miss one day you should have your work done for the next class period. If you miss two or more days we will determine due dates for work missed.
5. Each person in a lab group is expected to do their share of the lab work and is responsible for all of the concepts and calculations covered by the lab.
6. Aprons and safety glasses must be worn at all times in the lab. ***Think safety!***
7. **A scientific calculator is essential for Chemistry.** They cost around \$10. Buy one!
8. Regarding tests:
  - A. If you miss school on the day a test is given, you are expected to make up the test before the next class period.
  - B. If you miss school on the period before a test, you will be expected to take the test during the next class period.
  - C. If you have a prolonged illness, make arrangements with the instructor to take the test in a reasonable amount of time.
  - D. Tests are announced plenty of time in advance. Be ready for them.

## EXPECTATIONS OF THE INSTRUCTOR

1. You may expect me to take pride in myself, my students, and my school.
2. I can be available for extra help if you need it. Please try to let me know ahead of time if help sessions are needed so I can arrange my schedule accordingly.
3. Lab work is often the application of concepts previously covered in class. The work done on some labs will be assessed by collecting and grading lab reports. The work done on other labs will be assessed using a quiz or a test.
4. All homework assignments are expected to be completed on their due date. Students will be given credit for all homework assignments completed, but homework assignments will generally not be graded right or wrong.
5. Quizzes will be given periodically to help both of us identify your strengths and weaknesses. Quizzes will usually be announced.
6. Tests will be given over each chapter or unit and will always be announced ahead of time.

## **CHAPTER TEST RETAKES**

Every student can retake one chapter test each quarter. The better of the two grades will be included in your quarter average. Experience has shown the sooner you retake a chapter test the better chance you have of improving your score on that test.

## **EXTRA CREDIT**

There will occasionally be extra credit opportunities available. These will be announced to you and can only be done during the applicable chapter. One extra credit opportunity that is always available is for you find magazine or newspaper articles that deal with some aspect of chemistry. You should write a summary of the article and turn the article and summary in together. The articles must be actual newspaper or magazine articles. No articles from the internet will be accepted.

## **GRADING PROCEDURES**

You will have two different grades, a Norris grade and a Southeast Community College grade.

### **Norris Grade**

Quarter grades will be determined by your work in class. 65% of your quarter grade will be from chapter test scores, 25% from lab and quiz grades, and 10% of your quarter grade will be from homework assignments. Semester grades will consist of 40% from each quarter and 20% from the final semester examination, if given. If no final exam is given semester grades will consist of 50% from each quarter grade.

### **Southeast Community College Grade**

60% of your SCC grade will be determined by chapter test scores, 20% from lab and quiz grades, and 20% from two semester final exams. Extra credit will not be included in your SCC grade. The SCC grading scale is:

A+	95-100%	C+	75-79%
A	90-94%	C	70-74%
B+	85-89%	D+	65-69%
B	80-84%	D	60-69%
		U	Below 60%

## **COURSE SCHEDULE**

The following course schedule is a tentative schedule and may be changed at any time. More specific schedules for each chapter will be given to students and posted on the class website.

### **First Quarter**

Chapters 1 & 3 – Introduction to Chemistry  
and Scientific Measurement  
Chapter 2 – Matter and Change  
Chapter 4 – Atomic Structure  
Chapter 5 – Electrons in Atoms

### **Second Quarter**

Chapter 6 – The Periodic Table  
Chapter 7-8 – Ionic and Metallic Bonding  
and Covalent Bonding  
Chapter 10 – Chemical Quantities  
Chapter 11 – Chemical Reactions

Third Quarter

Chapter 12 – Stoichiometry

Chapter 13 – States of Matter

Chapter 14 – The Behavior of Gases

Chapter 15-16 – Water and Aqueous Solutions  
and Solutions

Fourth Quarter

Chapter 17-18 – Thermochemistry and  
Reaction Rates

Chapter 19 – Acids, Bases, and Salts

Chapter 20 – Oxidation-Reduction Reactions

Chapter 18 – Equilibrium

**HONOR CODE**

**I CERTIFY ON MY HONOR THAT I HAVE NEITHER GIVEN NOR  
RECEIVED ANY UNAUTHORIZED HELP ON THIS TEST OR  
ASSIGNMENT.**

## **A GUIDE FOR UNDERSTANDING CHEMISTRY FOR THE STUDENT**

1. Read the assigned text material at least twice, once for an overview and once for word-by-word and chart-by-chart analysis for details.
2. Do assigned homework as soon as possible. Don't save it to do at the last minute.
3. Consult other students in the class. They may have insights that may help you.
4. Discuss your insights with others. You will find it will help your understanding.
5. Don't miss class. You will discover that a significant amount of material is covered each day and you will quickly fall behind if you miss class.
6. Re-read the text several times when you run across a difficult concept.
7. Review previously studied material periodically, especially if you had difficulty understanding the concepts.
8. Don't give up. For many people, learning is a difficult chore. Persistence will usually pay off in greater understanding.
9. Consult with your teacher as soon as misunderstandings arise. Give the teacher and yourself enough time before any test to clear up any concept you don't understand.
10. Spend a lot of time on definitions. The analysis of problems becomes much easier if you have a clear understanding of the terms used.
11. Take good class notes. Your memory may not be as good as you think. Class notes help immeasurably when you are trying to understand your homework.
12. Have confidence in yourself. If you believe you can grasp the difficult concepts and keep on trying, you will find that you actually will start to understand them.
13. One of the purposes of performing laboratory experiments is to give you a concrete example of a theoretical concept. Thus, it is to your advantage to do your experiment and write-up promptly.
14. As strange as it may seem, it is still true that if you are having difficulty with math problems you should do more problems than assigned. Eventually you will understand them.

## A GUIDE FOR UNDERSTANDING CHEMISTRY FOR THE PARENT

1. Provide the student with a distraction free place to study and encourage them to use it.
2. Encourage the student to go through the steps on the “Guide for Understanding Science for the Student.
3. Understand that the problem solving approach used in science is new and difficult for some students. It is not unusual that some students will need up to nine or ten weeks of persistent effort to initiate understanding. Encourage them to persist and not give up.
4. Students who have done well in most of their other classes sometimes have an overly optimistic view of their memory and thus are reluctant to take class notes and certainly wouldn't dream of recopying class notes. You might encourage them along these lines.
5. Recognize that some students need the shock of doing poorly on a test to stimulate them to initiate a new strategy for studying. The disbelief that a new approach is needed sometimes continues until the reality of a poor four week's grade looms large on the horizon. One shocker four week's grade should be enough, however, so don't be reluctant to let them know what their expectations should be.
6. Do not feel any compulsion to assist the student with their science homework. They have plenty of resources in their text, their class notes, their fellow students, and their teacher. If your patience will allow, it may be helpful if you encourage the student to think a problem out loud to you. Some strategic questions like, “What really is the question being asked?” and “What do you know that relates the question being asked or to the quantity given?” should assist the student to think things out for themselves.
7. Above all, positive support and encouragement of the student along with stated faith in their ability to understand will provide the greatest long-range benefit.

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Dear Parent,

Thank you for taking the time to look over the 2007-08 Chemistry syllabus, the “A Guide for Understanding Chemistry for the Student” sheet, and the “A Guide for Understanding Chemistry for the Parent” sheet. Please sign below indicating that you have seen these items. Your student should return this tomorrow.

If you have questions about these items, or have any questions at any time during this school year, please do not hesitate to contact me.

\_\_\_\_\_  
Parent Signature

\_\_\_\_\_  
Date