GENERAL CHEMISTRY 2013-2014

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Course Description: This is a general chemistry class. You will be expected to work at a level commensurate with your ability. It is expected that some of you may have an interest in pursuing some area of science as a career and this course will try to give you a good foundation for that in addition to learning basic chemistry. Others of you may be taking this course only because it is a requirement at Nerinx Hall. Either way, I expect you to do your best.

Philosophy: Anyone can learn Chemistry. Not all will like it or pursue it as a career, but everyone can have a basic understanding and have fun with it. We are in this together – You to learn and me to do whatever I can to help you. We can also take the knowledge and skills we will gain into the broader Nerinx experience.

Someone asked me the other day: "Can anyone really learn chemistry? Can anyone really learn to know even a little about it?" After thinking about it, my answer is: YES!

First, I don't believe anyone has "zero" talent (for anything, including chemistry). But, regardless of your level of talent, you can learn just about anything you want. Sure, we all have different 'gifts' ... But all that means is that some have the 'knack' to learn things faster or in different ways than others. Lee Trevino, the golfer, once said: "There is no such thing as natural touch. Touch is something you create by hitting millions of golf balls."

Remember: It's a learning process for ALL of us. Even the great people will tell you they were not born making great discoveries or winning Nobel Prizes or being great athletes or writing great works. All you really need is the desire to do something, and that, along with consistent effort (Trevino's "millions of golf balls"), will result in constant improvements.

If you are one of those people who says: "I don't have a scientific bone in my body", but you feel like you would LIKE to learn, then just take action. All you have to do is try.

There is tremendous power in being consistent. Sit down with your notes or book for 15 minutes a day – beyond any homework or other assignment – and watch as you start to "get it." And if you already know some and want to reach a higher level or more understanding, there is no reason you can't do it.

The keys are desire and action. That's it. (*See Note below.*)

Every student in each of my classes starts the quarter, semester or year with an "A" average – not a perfect 100% but an A. It is then up to her where the grade goes from that point. I am going to challenge you. I am going to ask you to think. We will do things from the book, we will do things not in the book, we will jump around, we will skip some things, and we may add things in the moment. I will try to show you some "tricks" to help you to make your way through. Whatever we do, however, is directed at giving you a good basic understanding of the science of Chemistry.

Whatever else I may come up with, our ultimate "syllabus" is the Periodic Table of the Elements. We will start using it in Chapter 1 (actually the Preface) and continue throughout the year. When you look at the Periodic Table on the wall or in your book you will see a two dimensional representation. What I hope you will soon see is that it is really 3-D (or 4-D or more). It is also not "dead" but a vibrant, living thing.

Summary Statement of Teaching Philosophy: Pay attention, be astonished, tell about it

Course Goals: At the end of the course each student should be able to:

a. discuss the nature and importance of the Periodic Table of the elements in Chemistry.
b. discuss the bonding properties of the elements.
c. appreciate the use of theories (models) of varying complexity to rationalize chemical structure and reactivity.
d. explain the relationship between structure, and physical and chemical properties and to make predictions concerning these properties.
e. explain several ways in which the vast amount of information in the field of Chemistry may be organized.
f. think creatively about synthesis (of ideas as well as compounds).
g. attack problems in a systematic and logical manner.
h. explain the relationship between Chemistry and the rest of science.

Textbook: Malone and Dolter: Basic Concepts of Chemistry, 9th Edition. This is a very readable text that we may not cover all the parts of.

Materials: All materials should be kept in a 3-ring notebook. Homework should be done on notebook paper and kept in the notebook. At some point during the year we may start using a laboratory notebook. We may do lab reports instead. I will let you know.

Web Site: My website, **www.thinkchemistry.com**, is there for you. Each student has access to it at school and/or at home. Students and parents can get to it either directly or through a link on the Nerinx Hall web site. The "Chapter Notes" are there to help if you want them. They are not to replace attention and participation during class. Almost all handouts will be posted so that they are available even if they are lost. [The website is also mirrored on **www.thinkchemistry.org**.]

There are links and other pieces of valuable information on the site. Daily assignments and other work will be listed within the **Assignments** tab. I also include a rough time-line for the material we will cover and about how much time I think it should take. I do not, however, follow a strict calendar so I cannot always predict when we might be at any one place or when we will have tests. Outlines for reports (quarterly, written, lab experiments, etc.) are also available. I try to keep the site as up-to-date as possible.

Homework: Homework is practice to learn how to think about things and to do things so that when a lab assignment, quiz, test or exam occurs you know what you are doing. Everyone will be expected to do her homework for the day it is assigned. Some days we will go over the homework extensively and some days will be more general. You are expected to come to class with your homework completed (or at the very least with each problem attempted). You are also expected to do and hand in homework even if you have been sick. Prior homework should have been completed for the assigned day. For longer absences, we will need to talk. You should also note that homework does include reading assignments. You are expected to do this and be prepared to answer questions on the material.

I have two ways to approach evaluating written homework: *Preferred* and *Standard*. I have decided not to use my *Preferred Method* because students have not been doing their homework with this method.. *The Standard Method*: Everyone will turn in the assignment during the period and it will be treated like a

regular grade. Again, you will be penalized for any assignment not turned in with a 0. If you have questions you should remember these for our homework discussion. .

I do not like the *Standard Method* because it does not give you a choice. However, some students wait until class time to write something down as homework or delay everyone else while they finish what should have been done earlier. This is not fair to those who actually tried to do the work and it is not acceptable behavior. It also usually means that those students really have little or no understanding of the questions asked. My observations of your individual behaviors during these discussions will be reflected, in part, in your "participation" grade.

Lab Experiments: ***Laboratory exercises are not optional.*** If a student misses a lab, she will be required to make up the lab at the teacher's convenience. Some labs will require a written lab report, others will not.

Grading Procedure: (Percentages are approximate, except for the homework and participation percentages. Each test and lab will be assigned a point value.) You can expect daily quizzes whether you actually have them or not.

a) Tests and Projects 60%
b) Lab Experiments 15%
c) Homework 15%
d) Participation 10%

Grading System: The following grading scale, based on the weighted average determined above, will be used, including the Nerinx guidelines for tardies and unexcused absences. Students will have several opportunities for extra credit throughout the quarter. (1 point each - maximum 4 points per quarter.) Points from extra credit will be added directly to your final averaged grade for the quarter. Sometimes I may offer "extra" extra credit and this will be in addition to the other. (Oh, by the way, I do not round, so an 89.9 is an 89.9 and a B+ and not a 90, no matter what PowerSchool might show.)

Grading Scale: The "science" grading scale is used in this Chemistry class so continue to enjoy it as much as you are able.

97-100	A+	87-89.9	B+	77-79.9	C+	67-69.9	D+
93-97	A	83-87	B	73-77	C	63-67	D
90-93	A-	80-83	B-	70-73	C-	60-63	D-
					< 60	F	

Eye Protection: State law requires that "every student" must wear appropriate eye protection devices when participating in or observing certain classes. All chemistry laboratory classes are included in this law and required safety goggles or glasses must be worn at all times when in the lab. I am serious about this! You only have one pair of eyes. You will get a pair of safety glasses at the beginning of the year.

Equipment:

a) A calculator with the capability of working with numbers in scientific notation, roots, powers and logarithms will be needed.
b) Aprons (available in the lab benches) or extra shirts are not required but are highly recommended to keep from getting splashed with chemicals.
c) Appropriate paper, pens, pencils, etc. for each day's work.

Illness: We all get sick now and again. Hopefully it will not happen too much. However, if you do get sick, the following apply:

a) Tests and Quizzes- make up the day you return to school. (Follow Nerinx policy listed in the

Planner)

b) Labs - There is no regular makeup but we can possibly arrange a time. (Lab reports may be written up with partner's data for 75% credit.)
c) Written Reports and Quarterly Reports are due on the due dates, no exceptions, whether or not you happen to have class on that particular day. (See the detailed information on each of those reports at www.thinkchemistry.com)
d) All other (including homework) – due by class time on the first class day you return.
e) Homework – As noted, homework is due on the day and at the time it is due. If you forget your homework, you have until before Homeroom on the next **school day** to get it to me either in my mailbox or in my office. Homework grades lose 20% each **school day** your homework is late and will show as a 0 until I get it. If you are sick, the "clock" starts the first class day you return.
f) When you come to class you are expected to know what we are doing even if you have been sick. That said, if there is a test when you return you will take it with everyone else unless we have talked beforehand (which is not just as you walk into class).

UNLESS you talk with me (face-to-face or email) you are expected to complete any tests, labs, assignments, etc. promptly when you return. If you do not, you will receive a "0" for the grade on that item until it is complete. I will not track you down because this is part of your responsibility as a student in my class and at Nerinx.

Classroom Rules:

a) Arrive to class on time.
b) Bring all materials (book, notebook, pencil/pen, lab notebook, goggles/glasses, ruler) that are needed to class when you arrive the first time.
c) You have laptops. However there is no reason to use your laptop during class. A former student mentioned to me that using her laptop was a downfall for her and she improved at a point when I took the privilege away. Students who have tried using laptops during class in the past have routinely NOT done well. (Some students also seem to find it necessary to use their laptops during class for non-chemistry things. I have neither patience nor compassion for this kind of behavior.)
d) I will not use the "smart board" to save daily notes. You can get my notes from my website.
e) Although I have seating charts, you will be allowed to sit wherever you want unless this begins to cause problems. I do reserve the right to move anyone to a seat of my choosing.
f) Listen attentively when I am talking and when other students are asking or answering questions.
g) Treat your fellow students and me with respect (as you would like to be treated).
h) Follow all safety rules and directions when in the chemistry lab.
i) All behavior rules – gum, uniform, food, etc. – will be enforced. (See the handbook.)
j) I do not tolerate "sharing" answers. If you are having problems, come see me.

Discipline: I do not like to have discipline issues. We all are better than that. Recent times have prompted me to directly talk about this, however. These can appear as individual, small group, section or entire group issues, and can be responded to by me at each one of those levels. Ultimately you may not like my response and I have no idea ahead of time as to what it might be, but know that it will not be given without some prior warning. You should also know that I start the year out with a stack of Student Court Summonses although detentions do not often fit the crime and I prefer to handle things within the classroom if at all possible.

Written Reports: One "Written Report" is required each quarter and one "Quarterly Report" (see the "Handouts" section on the web site for detailed information regarding those reports). There may be

other written assignments throughout the course.

With any written assignment where you have used a published source for information (book, journal, magazine, newspaper, web site, etc.) I expect you to include a reference in an appropriate format. I am sure you have learned how to do this in your English classes and I will provide you with a reference sheet at some point during the first quarter.

I give you plenty of warning for when these reports are due (verbally and always posted on my web site), and I try to give you every opportunity to get them to me – hard copy, email, etc. I do not like to keep after you to get these in, and if they are not in when due you will receive a "0" for that grade and you will be penalized for being late.

Miscellaneous: One thing about Chemistry is that you need to keep on top of things as they are presented. When I mention that you need to learn/memorize something, my suggestion is that you DO learn/memorize the material. DO NOT wait until the last minute to begin. It will just not work. As I have said earlier, you need to do your homework when it is assigned. Do not wait until the Contact period before class or during class time to do it.

Lastly, I will work really hard to help each of you to be able to do your best in this class. If you try hard you will do well. Not everyone will get an "A" for a final grade but you can do well, and you may end up being surprised. If you have trouble, come to me as soon as you can to work on it – do not wait until the last minute. The last day of the quarter or right as the period is beginning before a test is too late to ask for help! I will work very hard to ensure that each of you will pass if you at least try. But you have to come to me because I cannot possibly keep track of everyone. Of course, it is always possible for me to conduct a class that no one would pass, but that is no fun for me either, and - believe it or not - that is not how I plan the course to be.

My office hours are listed at the top of this page. If these do not match your available times, we can make other arrangements (ex.: before or after school) but, again, you have to take the initiative to contact me. Generally the best way to contact me is in person but email works well also.

You should also note that I referee Soccer in the Fall and Spring, and Swimming and Diving in the Winter. This means that I may not always be available on any given afternoon to meet but I can be at school early if we make an appointment. I know my schedule(s) so check with me in advance. (Every once in a while something comes up at the last minute, but I will try to let you know as soon as I do.)

Note: It's all about momentum. (Remember that from Physics?)

Habits (both good and bad) live and die by momentum. If you're not studying each day and you want to build the habit, try this:

> Just schedule 15 minutes for yourself. Pick a time slot in advance. Write it down. Now here's the key: Do it for 5 days in a row. That should really start you on the path. Then, expand it to 30 minutes and beyond. It does not all have to be Chemistry although that would be fantastic!

Even the laziest, sloth-minded among us can sit still for 15 minutes and look at a few notes.

Use that tiny bit of discipline and it can snowball for you into a really good thing. Also, keep feeding your brain new information to keep you inspired. That's a better way to "feed your head."