Chemistry I

Mr. Morris

Chemistry I is a laboratory-oriented course that provides students with a sound introduction to basic chemical principles through a careful study of matter and its interactions. This challenging course is recommended for all college-bound students, particularly those interested in the sciences, medicine or nursing. Success in this course requires the application of math skills, particularly algebra.

The goals of this course are:
- to have students apply the concepts of chemistry to solve problems, encourage the use of the scientific method, and conduct experiments in a safe and knowledgeable way
- to prepare students for the Virginia Standard of Learning Test in Chemistry, which is usually given approximately 2 weeks prior to the end of the semester

Class Materials:
- 3 ring binder – at least 1 ½ inches thick
- Paper and Pencils/Pens
- Scientific calculator (for homework)
- Chemistry Textbook (provided)

Grading Policy:
Grades for this course will take the form of several types of assessments that will be weighed according to the percentages below:
- 50% Major Assessments - This category will be composed of Unit Tests
- 40% Minor Assessments - This category will be composed of Laboratory Reports, Projects and Reality Checks.
- 10% Practice/Participation - This category will be composed of Homework Checks, Bell Work, and Classroom Activities

Grading Scale:  

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>98-100</td>
</tr>
<tr>
<td>A</td>
<td>92-97</td>
</tr>
<tr>
<td>A–</td>
<td>90-91</td>
</tr>
<tr>
<td>B+</td>
<td>88-89</td>
</tr>
<tr>
<td>B</td>
<td>82-87</td>
</tr>
<tr>
<td>B–</td>
<td>80-81</td>
</tr>
<tr>
<td>C+</td>
<td>78-79</td>
</tr>
<tr>
<td>C</td>
<td>72-77</td>
</tr>
<tr>
<td>C–</td>
<td>70-71</td>
</tr>
<tr>
<td>D+</td>
<td>68-69</td>
</tr>
<tr>
<td>D</td>
<td>62-67</td>
</tr>
<tr>
<td>D–</td>
<td>60-61</td>
</tr>
<tr>
<td>F</td>
<td>0-59</td>
</tr>
</tbody>
</table>

Check System Percentages:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>V+</td>
<td>check plus – 100% on assignment</td>
</tr>
<tr>
<td>V</td>
<td>check – 90% on assignment</td>
</tr>
<tr>
<td>V-</td>
<td>check minus – 80% on assignment</td>
</tr>
<tr>
<td>V--</td>
<td>check minus minus – 70% on assignment</td>
</tr>
<tr>
<td>-</td>
<td>minus – 60% on assignment</td>
</tr>
<tr>
<td>--</td>
<td>minus minus – 50% on assignment</td>
</tr>
<tr>
<td>NC</td>
<td>Not Completed/No Credit</td>
</tr>
<tr>
<td>L8</td>
<td>Work was late and half credit is given</td>
</tr>
<tr>
<td>DayL8</td>
<td>Work was completed and turned in a day after it was due and 75% is given</td>
</tr>
</tbody>
</table>
### Chemistry Course Outline/Pacing Guide:

The following topics will be covered during the course of the semester with a unit test given at the end of each unit:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Days</th>
<th>Unit Topic</th>
<th>SOL</th>
<th>Chapter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>The Science of Chemistry Matter and Energy</td>
<td>1a-j, 2h, 5d</td>
<td>1 &amp; 2</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>Atoms and Radiation</td>
<td>2a,b,c,i</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>Electron Configurations and The Periodic Table</td>
<td>2d-i</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>Ions and Ionic Compounds Covalent Compounds Nomenclature</td>
<td>3a,c,d, 6a,b</td>
<td>5 &amp; 6</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>Chemical Equations and Reactions Oxidation, Reduction, and Electrochemistry</td>
<td>2g; 3b,e; 6a,b</td>
<td>7, 17</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
<td>The Mole and Chemical Composition Stoichiometry</td>
<td>1g; 4a,b,c</td>
<td>8 &amp; 9</td>
</tr>
<tr>
<td>7</td>
<td>6</td>
<td>Heat and Energy</td>
<td>5d,e,f</td>
<td>10</td>
</tr>
<tr>
<td>8</td>
<td>6</td>
<td>States of Matter and Solutions</td>
<td>4c; 5c,d,g</td>
<td>11 &amp; 13</td>
</tr>
<tr>
<td>9</td>
<td>6</td>
<td>Gases and the Kinetic Molecular Theory</td>
<td>5a,b,c</td>
<td>12</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>Chemical Equilibrium Reaction Rates Acids and Bases</td>
<td>3e,f; 4c,d</td>
<td>14 - 16</td>
</tr>
<tr>
<td>11</td>
<td>11</td>
<td>SOL and Final Exam Review and Test Completion</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Class Procedures

1. Procedure for beginning class:
   a. Bell Work
      ✓ Go immediately to your seat. Do not wait for the tardy bell to ring or for the teacher to tell you to get to work.
      ✓ Get out pencil, paper and notebook.
      ✓ Start to work immediately on the bell work assignment, which will be posted on the projection screen each day. This is an individual assignment and students should not help each other with the questions.
      ✓ You will have approximately 5 minutes after the tardy bell rings to do the assignment.
      ✓ When you have finished the bell work assignment, check the board for the daily assignment and prepare the appropriate materials.
      ✓ If there is a homework assignment, it will be posted on the small front board. Copy the assignment and place it in your notebook.
      ✓ Bell work assignments will be collected and graded as a participation grade.
      ✓ Work silently on your own.
   b. Homework
      ✓ After the Bell Work time has passed, we will go over the homework from the previous night.
      ✓ Make sure to ask questions and listen to me as we go over the homework. This will help you with the reality check and tests.
   c. Reality Check
      ✓ After going over the homework, we will have a Reality Check (or daily quiz).
      ✓ This is used to ensure that students are keeping up with readings, homework assignments, and review problems.
      ✓ Students may use their completed homework assignments to help them to complete these checks, but the students may not help each other.

2. Procedure for giving the teacher your attention:
   When you hear me call for the class’s attention, the procedure is as follows:
   🏘 Freeze and stop talking.
   🏘 Turn and face me. Pay attention and keep your eyes on me.
   🏘 Be ready for instruction. I will have something to say.

3. Procedure for leaving your seat:
   Students should not leave their seat without the teacher’s permission, but there are a few exceptions.
   ■ Getting paper or a pencil or sharpening your pencil
     ➢ I try to keep a supply of paper and pencils in a few spots in the room. If you need to get these supplies, quietly go to the closest location and retrieve them. If the supply is empty, please let me know later in class and I will refill it.
     ➢ If your pencil breaks, you can either wait until a pause in the class to sharpen the pencil or you can borrow a presharpened pencil from the supply area to use until there is a pause in class.
     ➢ Please try to refrain from distracting the class by sharpening pencils while someone else is talking.
   ■ Passing in papers
     Quietly walk to the front of the room and place your paper in the appropriate tray for your block.

4. Procedure for being tardy to class:
   If you are tardy to class, give the teacher your note and go directly to your seat. Start on the current assignment and your lab partner will bring you up to date during an appropriate time.
5. **Procedure for class dismissal:**
   - **No one leaves class without being dismissed!**
   - At the end of class all students will remain in their seats until you are dismissed by the teacher. All students will participate in class clean-up, especially in the lab, and re-organization.
   - All desks and stools should be returned to their original locations and the lab area should be cleaned up.

6. **Using the Bathroom**
   - The student may use the bathroom only at appropriate times during class and the teacher must give the student permission to leave.
   - Upon receiving permission, the student must sign out with the date and time and use the hall pass when leaving the room.
   - Upon returning, the student will sign back in with the time that they returned to class.

7. **Procedure for finishing work early:**
   - If you finish an assignment early, you will need to start another assignment, finish make-up work, or other class work.
   - If you finish a test early, you will need to place the test, answer key, and resource sheets in the appropriate trays at the front of the room. After which you will need to start another assignment, finish make-up work, or other class work.

8. **Procedure for make-up work:**
   - All work missed will need to be made up. The county policy states that you will have 3 days to do the make-up and turn it in.
   - When you return after an absence, follow the class routine for the beginning of class and after the bell work assignment, go quietly to the make-up folder and get your assignments for those days missed. If you have any questions, check with your partner during study time or after bell work. If you still need help or extra take home materials please see me during study time.
   - Turn all missing work into the basket.
   - Due to the classroom nature of labs, an alternative assignment may be assigned to be completed instead of the lab.
   - Due to the intense pace of this course, all tests and reality checks that are missed will need to be completed on the students own time so that they do not miss any more class time. The teacher also reserves the right to give an alternative test in a different format to the student in order to return the other students’ test back in a timely manner.
   - As always, if you ever need to know what assignments you are missing, please let me know and I will let you know what you are missing.

9. **Procedure for visitors:**
   - If a visitor comes to observe or see the teacher, class routine will not change.
   - If the teacher needs to talk to the visitor, listen for instructions and continue the regular class routine.

10. **Procedure for use of textbooks:**
    All students will be assigned a textbook. The book that you receive this year is only a few years old and is in very good condition. It is expected to be returned in a similar condition. No marks or highlighting will be made on or in the books! The book should also be covered at all times. Please be conscientious about your study materials. Remember that you will be responsible for it.
11. Unit Tests
At the end of each unit, a test will be given to assess a student’s comprehension of the material. These tests should be completed in a class block but definitely must be completed the same day they are started. If special circumstances arise (for example, the student needs to leave early due to a doctor’s appointment) and additional time is to be given on another day, it should be noted that questions should be answered in order and the test will be graded to the last question answered and all skipped questions will be marked incorrect. If a student finishes the test early, they are expected to work silently on other work until all other students are finished.

12. Recycling
Recycling is a very important way that we can contribute to the preservation of the planet. As a result, we will make every effort to recycle materials in this class. In the front of the classroom, you will see various containers for paper, aluminum cans, and plastic. If you have any of these materials in your trash, please place them in the appropriate container so that they can be recycled.

13. Procedure for lab partners:
- All students will have an assigned lab partner (or partners depending on class size). A collaborative relationship must be developed with this partner since you will be working with this partner to complete graded lab assignments. Peer review questionnaires, individual specific tasks, and/or individual components for labs and projects will be completed to ensure everyone is working cooperatively. Students not assisting fully in labs will not receive the same grade as the other partners.
- If a lab partner is absent during a lab, an alternative lab group may be assigned and the absent partner will need to complete an alternative project.

14. Procedure for a fire drill:
All students will immediately safely stop their activities, turn off any water and gas flow, and focus on the teacher for instructions.
- The class will be organized into a straight line depending on the arrangement of the students in the room. The first person in the line will help guide the rest of the room safely out of the building.
- We will exit quietly and efficiently in a line out of the right classroom door to the exit outside of that door. This exit will take you out to the east side of the building.
- We will follow the path out to the parking lot behind the first line of cars assembling in a line in reverse order. We will then wait in line quietly for instructions from the administration.
- When we are signaled to return to the building we will enter in reverse order with the new leader and go back to the classroom.
- There is no talking during this drill.
15. Proper Computer Usage

- Always use the computer that is assigned to you.
- Always log-on with your personal ID and password. NEVER use another person’s information.
- Do not give your password to any other individual. Be discreet when entering your password so that no one can see it or figure it out.
- Save all work under your ID number.
- Do not alter the appearance of the screen.
- Do not download software.
- Do not access other partitions of the network server—only use the folder with your ID number.
- Do not send, access, or receive personal email.
- Do not use the network or Internet for any illegal, inappropriate, or obscene purpose.
- Do not use the Internet unless authorization has been given.
- Do not use the computers to play games, including solitaire and mind sweeper unless authorization has been given.
- Do not attach stickers, magnets, photos, etc. to any hardware.
- Do not remove county property identification numbers from hardware.
- Follow the “Acceptable Use Policy” you signed at the beginning of the school year.
- All violations of these rules will result in an office referral without warning.

16. Lab Safety and the Student Lab Safety Contract:

Lab safety is extremely important to ensure that every student is safe. Therefore, all students must have a safety contract signed by themselves and guardian before a student can participate in any lab. In addition, any student not following the rules set forth in the contract will be removed from the lab setting and receive a zero for that lab assignment. The teacher has the right to deny participation in labs for safety reasons if he feels a student may harm himself/herself or others.

Students can also be asked to leave the lab or classroom for not following directions about various pieces of equipment. These include the water and gas faucets and safety devices located throughout the room.
Discipline Plan for the Classroom

Classroom Rules

1. Listen the first time rules or instructions are given.
2. Be on time and in your seat with materials ready before the bell rings.
3. No touching anyone else with hands, feet or free objects.
4. Quiet when someone else is talking.
5. Treat yourself and everyone else with respect with your actions and language.
6. Be prepared.

If You Choose To Break A Rule:

1st Time: Verbal Warning
2nd Time: Private conference with the student and 10 minute before school detention.
3rd Time: Parental contact, 20 minute before school detention, and an action plan must be completed.
4th Time: Visit to the office.

Severe Disruption: (fighting, use of profanity, destruction of property, disrespect shown toward adult, insubordination, endangering other students) Student will automatically be sent to the office.

Rewards:
Praise (daily)
Positive notes sent home (random)
Reward tickets for various accomplishments

◆◆◆◆◆ Important ◆◆◆◆◆

Please Keep This Plan In Your Notebook At All Times!
Thank You!
Secondary Science - Safety Rules Agreement

Science is a “hands-on” class meaning that students are expected to be actively involved with science equipment and materials. Safety in the science classroom must be the #1 priority for students, teachers, and parents. To ensure a safe classroom, a list of rules and guidelines has been developed and are provided below. These rules must be followed at all times. The teacher will keep one copy and one copy will be kept in the student’s notebook as a reminder throughout the science course.

The student is responsible for:

| a. understanding the rules and signing the safety rules agreement | d. keeping a copy of the signed agreement in their notebook for reference |
| b. explaining the rules to their parent or guardian | e. following the safety rules at all times in the science classroom |
| c. having their parent or guardian sign the safety rules agreement | f. reporting anything amiss in the lab, including anyone doing something dangerous or inappropriate |

SAFETY GUIDELINES

1. Safety goggles must be worn at all times when chemicals, glassware, and electrical or heat sources are used.
2. Report any unsafe condition, accident, or injury to the teacher immediately.
3. Conduct yourself in a responsible manner. Pay attention and think about what you are doing at all times. Horseplay and other inappropriate conduct in the science classroom is dangerous and will not be tolerated.
4. Follow all directions carefully. If you do not understand a direction, ask the teacher for help or clarification.
5. Do not eat, drink, chew gum or apply cosmetics in the science classroom.
6. Know the location and procedures for the use of all safety equipment in the science classroom.
7. Know what to do in case of fire and the location of the nearest fire exit.
8. Read all laboratory activity procedures carefully before starting the lab.
   a. Be sure to listen carefully to all safety procedures, which are given before each lab activity. If you do not understand a safety procedure, ask your teacher to explain it before proceeding.
   b. Dress properly during a lab activity. Long hair should be tied back. Loose clothing and dangling jewelry should be removed or tied up. Keep hair, clothing, and hands a safe distance from heat sources at all times.
   c. Do not touch any equipment or materials until you are told to do so.
   d. Perform only those experiments and activities approved by your teacher.
   e. Never leave any experiment or activity unattended. Do not wander from your lab area or distract others who are involved in an activity or an experiment.
   f. Never look into the open mouth of a container that is being heated.
   g. After performing laboratory activities, wash your hands thoroughly before leaving the classroom.
9. Chemical safety in the science classroom is extremely important.
   a. Never remove any chemicals or materials from the classroom unless specifically directed to do so by your teacher.
   b. All chemicals in the science room should be considered dangerous.
   c. Never taste chemicals, inhale chemical vapors or mix chemicals unless directed to do so by your teacher.
   d. If a chemical should splash in your eye or on your skin, immediately flush with water for at least 20 minutes or until directed to stop. Get the attention of the teacher immediately.
10. Carry sharp instruments pointing downward and away from you and others.
11. Work areas should be kept clean and tidy at all times. When you finish working, turn off any water, gas or electric you used and return all materials to the correct location.
12. Additional Safety Guidelines for Chemistry
   a. Always add acid to water, not the other way around.
   b. If a chemical gets on your skin or in your eyes, flush with water and let your teacher know immediately.
   c. Always check the label twice before removing any of the contents of a container and only take as much as needed.
   d. Do not put hot glassware into cold water; it will break.
   e. Dispose of all chemical waste properly. Always be completely sure that it is safe to put something in the sink or in the regular trash container.
13. Notify your teacher immediately of any health concerns for science class. Please list any allergies or other health concerns below.
   a. Do you wear contact lenses? _________
   b. Do you have any allergies? _________ if yes, please list ________________________________

Student Copy – to be kept in notebook at all times
Science is a "hands-on" class meaning that students are expected to be actively involved with science equipment and materials. Safety in the science classroom must be the #1 priority for students, teachers, and parents. To ensure a safe classroom, a list of rules and guidelines has been developed and are provided below. These rules must be followed at all times. The teacher will keep one copy and one copy will be kept in the student’s notebook as a reminder throughout the science course.

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<tbody>
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<td>d. keeping a copy of the signed agreement in their notebook for reference</td>
</tr>
<tr>
<td>b. explaining the rules to their parent or guardian</td>
<td>e. following the safety rules at all times in the science classroom</td>
</tr>
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<td>c. having their parent or guardian sign the safety rules agreement</td>
<td>f. reporting anything amiss in the lab, including anyone doing something dangerous or inappropriate</td>
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2. Report any unsafe condition, accident, or injury to the teacher immediately.
3. Conduct yourself in a responsible manner. Pay attention and think about what you are doing at all times. Horseplay and other inappropriate conduct in the science classroom is dangerous and will not be tolerated.
4. Follow all directions carefully. If you do not understand a direction, ask the teacher for help or clarification.
5. Do not eat, drink, chew gum or apply cosmetics in the science classroom.
6. Know the location and procedures for the use of all safety equipment in the science classroom.
7. Know what to do in case of fire and the location of the nearest fire exit.
8. Read all laboratory activity procedures carefully before starting the lab.
   a. Be sure to listen carefully to all safety procedures, which are given before each lab activity. If you do not understand a safety procedure, ask your teacher to explain it before proceeding.
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   a. Do you wear contact lenses? ________
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For the Student:

I, ____________________________(print your name), have read and agree to follow all the safety rules set forth in this agreement. I realize that I must obey these rules to ensure my own safety and that of my fellow students and teacher. I will cooperate completely with my teacher and fellow students to maintain a safe lab environment. I will also follow the oral and written instructions of my teacher at all times. I understand that any violation of this safety rules agreement may result in my removal from the science laboratory and require a parent conference.

Student Signature: ____________________________ Date: ________________

Dear Parent or Guardian:

We feel that you should be informed regarding the school’s effort to create a safe science experience for your child. As a school, we accept our responsibility to work with students and parents to provide a safe science laboratory environment. With the cooperation of students and parents, a safety instruction program can eliminate, prevent and correct hazards. Please read the safe science rules listed above. Your signature on this agreement indicates you have read and understand the Student Safety Rules Agreement, are aware of the measures taken to insure safety in the science classroom, and will instruct your child to uphold his/her agreement to follow these rules and procedures.

Parent Signature: ____________________________ Date: ________________

For Science Teacher to Complete:

| Student watched safety video or participated in other safety training lesson (enter date) |
| Student completed independent coursework on safety and scored >80% (enter score) |

Once fully complete, teacher and student should maintain a copy of the agreement.