2019-2020 Chemistry Syllabus
Teacher: Ms. Ana Lau  plackea@fultonschoools.org
Office Hours: Mornings 7:40 – 8:10 AM; Tuesday and Thursday 3:35 – 4:05 PM or by appointment
Google Classroom: All students are expected to access and use Google Classroom.

TEXTBOOK
HMH Modern Chemistry
Students will be given a print copy of the textbook, as well as the Interactive Online Student Edition. FCBOE policy states that if a student loses a book, replacement cost must be paid before a new book can be issued or credit can be given for the course. A charge will be assessed for all lost or damaged books. The replacement cost for lost or destroyed book is $121.55.

COURSE DESCRIPTION
The Chemistry curriculum continues students’ investigations of the physical sciences that began in Grades K-8 (see Fulton County System-wide Science Vertical Instructional Framework). The course is designed to provide students with the necessary knowledge and skills in chemistry. Chemistry extends the physical sciences to more abstract concepts including, the structure and properties of matter, structure of atoms, the interaction matter, and the conservation of matter. These concepts are investigated through laboratory experiences and fieldwork designed for students to develop appropriate knowledge and skills in science as inquiry.

COURSE OBJECTIVES
1. Use appropriate scientific tools to observe, record, organize, analyze, interpret, write, and present the results of scientific investigations clearly and accurately.
2. Use information, calculations, and predications to explain the nature, properties, classification, and nomenclature of matter including the prediction of chemical formulas based on balance of charges.
3. Use the law of conservation of matter, including molarity and molality, to determine chemical composition under different reaction types and conditions.
4. Use modern atomic theory to explain the characteristic properties of atoms including size, charge, particles, isotopes, chemical bonds, light emission, and electron movement.
5. Explain the trends in the Periodic table and predict the properties of representative elements.
6. Demonstrate the effects of varying factors (concentration, temperature, and pressure) on the rate of chemical reaction.
7. Collect, analyze, and compare data on the effects of motion of atoms and molecules on physical and chemical process and relate these to energy flow during phase change.
8. Explain the process involved in solute-solvent interactions and evaluate the nature of acids and bases.

EXPECTATIONS for STUDENTS
1. Complete all assignments, submit work on time, and actively participate in discussions.
2. Make up work, notes, labs, and assessments after an absence. Check Google Classroom for content that was discussed on day of absence, ask classmates for notes, and coordinate help sessions with the teacher, if needed.
3. Students should ask for help when struggling and come in for help sessions as soon as possible.
4. Topics in chemistry build on each other, so keep up with the material because you could easily fall behind.
5. Be PROMPT, POLITE, PROACTIVE, and POSITIVE.

ELECTRONIC DEVICES
Students are expected to use their authorized electronic devices for school related activities and learning when prompted. If an unauthorized device is out without the explicit permission from the teacher, the student will receive a warning and the parent/guardian will be notified. If this happens more than once, an administrative referral may be placed. If a student is found with a cell phone or unauthorized device during any type of assessment, the device will be confiscated, and the situation will be treated as an academic dishonesty incident.
**GRADING**

Students are responsible for keeping track of their grades and knowing when they need help. Students and parents are encouraged to check Home Access Center for current grades. There will not be any extra credit assignments, so keep your grades up.

<table>
<thead>
<tr>
<th>Category weights</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Summative assessments</td>
<td>40%</td>
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<tr>
<td>Formative assessments</td>
<td>40%</td>
</tr>
<tr>
<td>Final exam</td>
<td>20%</td>
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</tbody>
</table>

- **Unit Tests**: One test will be given at the end of each unit taught in class and will count as a summative grade.
- **Formal Labs**: One formal lab report is required each semester. Half of the grade will be based on the lab sheet and calculations, which may be completed as a lab group. The other half will be based on the typed lab report, which is an individual assignment. The formal lab grade will be counted as a summative.
- **Informal Labs**: There will be a few informal labs each unit, which will be completed in groups of two or three students. While the labs will be done in groups questions and lab sheets are to be completed individually. Informal Labs will be included in the formative category.
- **Homework**: Homework assignments will include small practice problem sets given on a regular basis and online unit homework assignments in mastering chemistry. Homework will count as a formative grade.
- **Quizzes**: Several quizzes will be given during the course of the year to make sure that students have grasped concepts or memorized critical information. Quizzes will count as a formative grade.
- **Final Exam**: A cumulative final exam will be given at the end of the semester.

**CURRICULUM TOPICS**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Topic</th>
<th>Standard</th>
<th>Chapter(s)</th>
<th>Weeks</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Atomic Theory and the Atom, isotopes, dimensional analysis, and graphing</td>
<td>SC1. Obtain, evaluate, and communicate information about the use of the modern atomic theory and periodic law to explain the characteristics of atoms and elements.</td>
<td>1, 2, 3</td>
<td>2</td>
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<tr>
<td>2</td>
<td>Periodic Trends including Lewis Dot Structures, Valence Electrons, Electron Configuration, Orbital Diagram, Atomic Radius, Ionization Energy, and Electronegativity</td>
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<td>4, 5</td>
<td>3</td>
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<tr>
<td>3, 4</td>
<td>Chemical and Physical Properties of Matter resulting in chemical bonding including ionic, covalent, and acid nomenclature</td>
<td>SC2. Obtain, evaluate, and communicate information about the chemical and physical properties of matter resulting from the ability of atoms to form bonds.</td>
<td>1, 6, 7</td>
<td>4</td>
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<tr>
<td>5</td>
<td>Law of Conservation of Matter with chemical reactions including single displacement, double displacement, synthesis, decomposition, combustion, and balancing equations</td>
<td>SC3. Obtain, evaluate, and communicate information about how the Law of Conservation of Matter is used to determine chemical composition in compounds and chemical reactions.</td>
<td>8</td>
<td>2</td>
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<tr>
<td>6</td>
<td>The Mole including mass, molar volume, and particle conversions, percent composition, molecular formula, and empirical formula.</td>
<td></td>
<td>7, 9</td>
<td>3</td>
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<tr>
<td>7</td>
<td>Stoichiometry including conversions between mass/molar volume/particles of one substance to mass/molar volume/particles of another substance and limiting reactants</td>
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<td>9</td>
<td>3</td>
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<tr>
<td>Semester 2</td>
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<tr>
<td>8</td>
<td>Kinetic Molecular Theory including enthalpy, specific heat, Hess’s Law, heating curves</td>
<td>SC5. Obtain, evaluate, and communicate information about the Kinetic Molecular Theory to model atomic and molecular motion in chemical and physical processes.</td>
<td>10 3</td>
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<tr>
<td>9</td>
<td>Gas Laws relating Pressure, Volume, Temperature, and number of molecules of a gas</td>
<td>11 3</td>
<td></td>
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<tr>
<td>10</td>
<td>Solutions including molarity, percent by mass, and colligative properties</td>
<td>SC6. Obtain, evaluate, and communicate information about the properties that describe solutions and the nature of acids and bases.</td>
<td>12 3</td>
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<tr>
<td>11</td>
<td>Acids and Bases including pH, pOH, neutralization, Arrhenius/Bronsted-Lowry models of acids and bases</td>
<td>14, 15 3</td>
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<tr>
<td>12</td>
<td>Equilibrium including the collision theory and Le Châtelier’s principle</td>
<td>SC4. Obtain, evaluate, and communicate information about how to refine the design of a chemical system by applying engineering principles to manipulate the factors that affect a chemical reaction.</td>
<td>17, 18 6</td>
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* These standards can be found at [https://www.georgiastandards.org/](https://www.georgiastandards.org/)

**ABSENCES and MAKEUP WORK**
It is the student’s responsibility to initiate the process for makeup work. The student should check Google classroom for updates on the agenda and to access to class documents.

**LABS**: Each student is expected to work with partner(s) and participate in lab activities. Any infraction of safety rules will result in dismissal from the lab area. Students are expected to respect others, maintain a clean lab area, and follow lab instructions. **Closed toe shoes and goggles are required.** Make-up labs (for excused absences) must be arranged with the teacher. Lab assignments are due the next school day, unless explicitly stated. If the student does not make-up the lab, s/he will receive a zero for the lab assignment. Some lab documents will be distributed and collected via Google Classroom.

**HOMEWORK**: Students are expected to participate in and complete online flip classroom presentations, print selected material on their own, and to complete online assignments/activities. If online activity is not possible, the student should discuss the alternatives with the teacher.

**TEST/QUIZZES**: On a day in which a test/quiz is administered, every student who is present will take the assessment. If a student is absent on the day of the assessment, the student will make up the assessment on the day s/he returns to school. Make-up assessments may be different from the original assessment but will include the same curriculum topics.

**LATE WORK**
Assignments are considered late if they are not turned in when collected in class. If an assignment is submitted on Google Classroom or other online forum, it must be submitted by the day and time specified. Ten points will be deducted from scores on late assignments. For example, a score of 87 will be recorded as 77 in the grade book. It is up to the teacher’s discretion to decide whether to accept the original assignment or require an alternative assignment for late work.

**RECOVERY POLICY**
*For students whose cumulative average is a 79% or below*
Students who are struggling in any class at Centennial have the opportunity to recover from a low cumulative average. First, the student must initiate a conversation with their teacher about his/her grade. Then, the student must turn in ALL missing assignments or alternatives to the missing assignments as determined by the teacher. Ten points will be taken off any late work. If the student’s cumulative average is still below an 80%, the student will meet with the teacher to discuss which assessments they would like to retake. The student must come in for a help session with the
teacher before they are able to reassess. The reassessment assignment will be determined by the teacher and assessed
with a maximum score of a 100%. If the student’s grade is still below an 80% the student can repeat this process. All
recovery work must be completed within the current 6-week grading period and 10 days before the end of the
semester.

HONOR CODE
As a community that values academic honesty and seeks to provide the highest levels of learning for students, the
Centennial administration, faculty, parents, and students do not tolerate cheating.

As stated in Fulton County Board of Education Policy, cheating includes:

- Copying or borrowing from another source and submitting it as one’s own work – including plagiarizing sources
  from the internet
- Seeking or accepting unauthorized assistance from anyone on tests, projects, or other assignments
- Providing or receiving test questions in advance without permission
- Working collaboratively with other students when individual work is expected – including homework
- Other offenses as determined by administration

Consequences for copying or providing answers on an assignment which should have been completed by an individual
student:

- First offense – zero on the assignment; teacher requires assignment completion for 70%; assignments not
  redone will remain a zero
- Second offense – zero on the assignment; parent notification; teacher requires assignment completion for 50%;
  assignments not redone will remain a zero
- Third and further offenses – zero on the assignment; parent notification; disciplinary referral to administrator;
  teacher requires assignment completion for 50%; assignments not redone will remain a zero

Consequences for plagiarism on a research paper or project; receiving or giving answers during a test or quiz:

- First offense – zero on the paper, project, or test; parent notification; teacher requires the original or an
  alternate assignment to be completed for 50%; time allowed will be half the original time assigned; assignments
  not redone will remain a zero
- Second and further offenses – zero on the paper, project, or test; parent notification; disciplinary referral to
  administrator; dismissal from leadership positions; exclusion or dismissal from honor societies; teacher requires
  the original or an alternate assignment to be completed for 50%; time allowed will be half the original time
  allowed; assignments not redone will remain a zero

The following violations shall result in immediate administrative referral and exclusion or expulsion from all honor
societies: cheating on a final exam; altering or forging grades, gradebooks, progress reports, report cards, or academic
records; fabricating data or signatures; theft of a test or other school resources. Students who commit an honor code
violation could also lose leadership positions in clubs or organizations.

Consequences will be applied if cheating occurs on any work submitted by a Centennial student in an event,
competition, or contest in which he represents the school system.

Additional possible consequences may include exclusion from interscholastic activities and extracurricular activities, as
determined by the administrator.

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Acknowledgement Form

*Please complete and return this form to the instructor by the end of the first week of school.*

By signing below, I am indicating that I have read and understand the syllabus and will be accountable for the information and guidelines therein.

Student Name (please print): _________________________________________________

Student Signature: ___________________________ Date___________________________

I have looked over the expectations for my child and I agree to work in partnership with Ms. Lau to ensure my child’s academic success. I will contact you should I have any questions or concerns throughout the semester. I understand that my child is responsible for adhering to these rules and procedures.

Parent/Guardian Name (please print) __________________________________________

Guardian Email _____________________________________________________________

Daytime Number ___________________ Evening Number _________________________

Preferred Method of Contact _________________________________________________

Guardian Signature: ___________________________ Date___________________________