

BCAM COURSE OVERVIEW: 2016-17

COURSE TITLE: CHEMISTRY TEACHER: HENRY
GRADE: 11TH ROOM #: 329 TEACHER BCAM EMAIL: SHENRY@BCAMHS.ORG

COURSE DESCRIPTION: *This is an overview of the course, including why it will be interesting for our students and what they will gain from completing the course*

Chemistry is a laboratory science course in which students investigate the composition of matter and its interactions. Chemistry is around us. Chemistry is the basic to cooking, cleaning, understanding the human body, gardening, etc. Understanding basic chemistry provides knowledge about our environments, government policies, farming, water supply, and etc. Students will learn the interrelations and impact of chemistry on society and individually.

ENDURING UNDERSTANDINGS: *These are the most important ideas for the course. At the end of the course, students will understand:*

- Advances in chemistry have personal and societal costs and benefits.
- Chemistry is essential to understand the physical and biological world.
- Chemistry plays a vital role in the advancement in technology.
- Chemistry plays a vital role in our existence.

SPECIFIC ACADEMIC SKILLS: *These are the most important skills for the course. At the end of this course, students will be able to:*

- Use reason to support claims
- Write formal lab reports using claim, evidence, and reasoning skills
- Use critical thinking skills
- Critique and respond to informational text
- Use mathematical skills to explain chemical phenomena
- Analyze and interpret data

CCL STANDARDS: *These are the important Common Core Learning Standards (in short form) that will drive the curriculum and connect to units of study and academic skills.*

- RST.11-12.2 – Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
- RST.11-12.3 – Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
- RST.11-12.9 – Synthesize information from a range of sources (e.g. texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
- WHST.11-12.1a – Introduce precise, knowledge claims(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences that claim(s), counterclaims, reasons, and evidence.
- WHST.11-12.1b – Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while point out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.
- WHST.11-12.2a – Introduce a topic and organize complex ideas, concepts, and information so that

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each new element builds on that which precedes it to create a unified whole; include formatting (e.g. headings), graphics (e.g. figures, tables) and multimedia when useful to aiding comprehension.
• N-Q.1 – Use units as a way to understand problems and to guide the solution of multi-step problems, choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
• N-Q.3 – Choose a level of accuracy appropriate to limitations on measurements when reporting quantities.
• A-CED.4 – Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.
• A-RET.1 – Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
• S-ID.1 – Represent data with plots on the real number line (dot plots, histograms, and box plots).

ASSESSMENTS OF SKILLS/STANDARDS: *These are the major formative and summative measures that will be used to assess student progress in the course.*

• Quizzes for each unit will be given every Friday composed of short responses from previous Regents' exams, where students will need to use claim, evidence, and reasoning strategy.
• Unit Exams will be given at the end of each unit, which will be composed of multiple-choice and constructed responses from previous Regents' exams.
• Written formal lab reports
• Artistic projects – students will be allowed to illustrate their knowledge of chemistry in various ways such as models, posters, drawings, etc
• Claim, evidence and reasoning strategy
• Writing assignments to assess student's comprehension on the scientific readings from newspapers, magazines that are related to their everyday lives.
• Homework
• Do Now and Exit Slips
• Interactive Notebook

UNITS OF STUDY: *These are the titles/descriptions of the primary units covered during the course.*

1. Nature of Science	7. Physical Behavior of Matter II
2. Physical Behavior of Matter I	8. Kinetics and Equilibrium
3. Atomic Theory	9. Acids, Bases, and Salts
4. Periodic Table	10. Redox
5. Chemical Bonding	11. Nuclear Chemistry
6. Moles/Stoichiometry	12. Organic Chemistry

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TEXTS/MEDIA: *This is a sampling of texts, media, and resources that will be covered/utilized in the course.*

1. Articles from ChemMatters
2. Videos clips about chemistry phenomena
3. Glencoe: Chemistry – Concepts and Applications
4. Chemistry Reference Table
5. Molecules at Exhibition by John Emsey

COURSE RULES AND GUIDELINES: *These are the mechanisms that will manage the class and if followed result in student success for this course.*

- Students must respect themselves, teachers, classmates, administration, and support personnel. Students must also respect the classroom, the furniture, lab materials, and computers.
- Students are expected to come to class prepared to learn and think.
- Attendance will be taken at the beginning of class and absences will be tracked. Absentee will greatly affected your grade.
- Tardiness will not be accepted or tolerate. If tardiness is excessive there will be consequences to be faced based on BCAM school policies on tardiness.
- All assignments must be in the assignment box for your period before class begins on the day they are due. Other than excused absences, any assignments handed in after I collected them will be considered late.
- If you missed an assignment or homework, you must complete it the next day when you come back to school.
- Students who are caught cheating on all or any assignment, including quizzes, exams, or projects will automatically received a grade of a 45 on that specific assignment.
- No late work, no exceptions.

COURSE HOMEWORK POLICY: *This is an overview of homework distribution schedule and the process for completion and collection.*

Students will be given homework three times a week to practice on the concepts taught in class. Students will not be given homework when exams are administered. At the beginning of class, students are supposed to hand in their homework in their designated class bin located in the front of the classroom. There will be verbally, written, and technological reminder to the students of when homework assignments are due.