CHM 107 Chemistry and Society Lecture Syllabus

Glendale Community College Main Campus, Spring 2020, section 11462

A survey of chemistry and its impact on the environment. Completion of CHM107LL required to meet the Natural Science requirement. Prerequisites: None. Note: General Education Designation: Natural Sciences (Quantitative) - [SQ] in combination with: CHM107LL

Instructor Information

- Instructor: Dr. Kimberly Smith
- Office Location: PS 118
- Office Hours: Mon 2-4, Wed 2-3, Tutoring in HT2 Wed 3-5
- Phone: 623-845-4769
- Email: Kimberly.Smith@gccaz.edu
- Website: http://web.gccaz.edu/~kimld88531/chm107.htm

Course Information

- Course format: Face-to-Face
- Credit hours: 3.0
- Classroom location: PS 156
- Course days and times: MW 12:30-1:45 PM
- Exceptions: Holidays as marked on Schedule Grid
- Instructional Contact Hours & Out-of-Class Student Work: For this 3.0 credit hour course, you should plan to spend at least 3.0 hours on course content or seat time (direct instruction), and 6.0 hours on out-of-class student work weekly.
- Final Exam day and time: Wed May 6th at 12:00-1:50
- Tutoring occurs daily, website: http://www2.gccaz.edu/academics/departments/chemistry/tutoring

Course Description

A survey of chemistry and its impact on the environment.

Course Competencies - http://aztransmac2.asu.edu/cgi-bin/WebObjects/MCCCD.woa/wa/freeForm2?id=105640

1. Differentiate between physical and chemical properties and changes, and between elements, compounds, and mixtures. (I)
2. Compare levels of air pollution in other countries of the world to the problem in the U.S. (I)
3. Describe the basic structure of the atom and draw Lewis structures for atoms or simple molecules. (I, III)
4. Use appropriate chemical terminology and conventions to interpret symbols and formulas, balance chemical equations, name and write formulas for common inorganic compounds, and identify various types of chemical reactions. (I, IV)
5. Predict shapes of simple molecules (I, III)
6. Perform calculations involving the metric system, scientific notation, the mole concept, and concentration terms including molarity, percent, ppm, and ppb. (I, II, III, VI)

7. Describe how the ozone layer protects the earth and how CFC`s deplete the ozone layer. (II)
8. Compare the seriousness of ozone depletion to global warming in various countries of the world. (II, III)
9. Define energy and entropy and explain their relationship to matter. (II, III, IV)
10. Use the concepts of energy and entropy to discuss the chemistry of the ozone layer and the availability of energy from fossil fuels. (II, III, IV)

11. Describe the causes and implications of global warming. (III)
12. Describe the carbon cycle and the water cycle and their global impact. (III, IV)
13. Describe approaches to alternative use of fossil fuels in the U.S. and in other parts of the world. (IV)
14. Classify substances as acids or bases, and define the pH scale of measuring relative acidity. (IV)
15. Describe the properties of water and aqueous solutions in terms of their composition and structure. (IV, V)
16. Describe the distribution of water globally and the availability of fresh water. (V)
17. Give examples of transnational problems of acid rain. (VI)
18. Identify and describe the special properties of water. (V)
19. Describe the concept of equilibrium and Le Chatelier`s Principle. (V)
20. Describe the concepts: acid, base, molarity, pH, and acid rain. (VI)
21. Work introductory problems involving molarity and dilution. (VI)
22. Explain fission, fusion, and radioactivity. (VII)
23. Describe how nuclear processes are used in medicine, energy production, and weapons production. (VII)
24. Identify and describe current developments in solar energy technology and in other alternative fuel technologies. (VII,VIII)
25. Describe the structure and properties of polymers. (IX)
26. Identify and describe at least two types of recycling processes. (IX)
27. Identify common drugs and describe their effects. (X)
28. Describe the basic chemical composition and nutritional roles of carbohydrates, saturated and unsaturated fats, proteins, cholesterol, and vitamins. (X,XI)
29. Describe combustion and its relationship to energy production in the body. (XI)
30. Identify and describe major concerns and issues related to air quality, ozone depletion, global warming, energy consumption, water treatment and purification, acid rain, nuclear energy, and world hunger. (I-VII,XI)
31. Identify and describe current issues and directions in modern chemistry. (XII)

Note: Your instructor will make every attempt to follow the following procedures and schedule, but they may be changed in the event of extenuating circumstances. Changes will be announced.

Textbooks, Materials and Technologies

Required Materials: *Textbook is posted in Canvas under Modules*

Course Web Site is at http://web.gccaz.edu/~kimld88531/chm107.htm

Calculator, non-graphing, non-programmable is required such as a TI-30XA

Attendance Requirements

Attendance in lecture is mandatory and necessary for adequate performance in the class. Instruction begins on the first day of class. If you are absent, you are still responsible for all material covered during your absence. If you are absent 5 times without contacting me you will be withdrawn from the course with a W or Y depending on the date no exceptions. If you drop lecture by the tenth week, you must also drop the lab.

Attendance is essential to achieving course objectives. You are expected to attend all class sessions. “Sessions” in a hybrid class include any scheduled chats, quizzes, online discussions or other planned activity. Attendance is

also measured by your activity in class and online. You should plan to participate at least 3 days per week. Should you miss more than 2 face to face sessions, you may be withdrawn for excessive absences.

Withdrawals

> I may withdraw anyone who misses 6 days in a 3-day per week class, 4 days in a 2-day per week class, or 2 days in a 1-day per week class without talking with me. Grades of "I" are given only under extreme circumstances if the student request so in writing, meets with the instructor, and the instructor approves the situation before the final exam. If you withdraw from the CHM 107 lecture within the first ten weeks of class, you must also withdraw from the lab. Students who take the final exam are not eligible to receive a "W."

It is the responsibility of the student to drop the course before the deadline for student-initiated withdrawal. Students should contact their instructor to be withdrawn. The instructor may drop a student for excessive absences (as defined by the instructor) with a grade of W or Y, depending on course grade at time of withdrawal. After the deadline specified in the current GCC course schedule, you will need instructor approval to withdraw. If approved for withdrawal, students receive a grade of "W" if the current course average is 60% or better, or a "Y" if the current course average is less than 60%. Students may not withdraw during the last two weeks of the semester; an A-F grade will be assigned. Contact your instructor if you wish to remain in the lecture course with a failing grade and receive a "W" (the instructor will evaluate the appropriateness of each situation on a case-by-case basis). Note: A grade of "Y" counts as an "F" in your GPA until the class is retaken and a higher grade is earned. If you require a letter grade because of financial aid, you must continue to attend class.

Grading Standards & Practices

Letter Grade and Percent Range	Your grade will be determined as follows:
A 90-100%	Activities – 25% (lowest dropped)
B 80-89%	Midterm Exam – 25%
C 70-79%	Project 1 – 10%, Project 2 – 10%
D 60-69%	Attendance – 5%
F 0-59%	Final Exam - 25%

Activities – Activities can be basically any task assigned. Possibilities are pop quizzes, homework, watching a movie, writing a paper, looking up information on the web, show-n-tell, or reviewing a product. Pop quizzes will be very short in-class written assignments. The average of the activities will count as 25% of your grade. Your lowest activity will be dropped. If you miss one activity, it will be the one you drop. If you miss a second activity, you will receive a zero unless excused. If excused, you can make it up. There will be many activities. Activities are graded out of 10 points.

Exams - Exams are individual effort. Exams will take the entire class period and consist of multiple choice and short answer type questions. You may not use your book, notes or other material during the exams except a non-programmable, non-graphing calculator. No exams are dropped. Cell phones, smart watches, and music players must be off during exams and put away. You may make up one exam without penalty if excused. If not excused there is a deduction of 10 points per day late. Exams are graded out of 100 points.

Projects – You will work in groups of three to four to create a 10-minute presentation to give in class. Google Slides is typically the format used and you share with me. The first topic must be environmental in nature, the second topic can relate to anything covered in class. Your instructor will give you more instructions and topic

choices in class. Projects are graded out of 100 points and count as 20% of your grade total for both.

Attendance –

Number of Absences	Points for total grade
0	6
1	5
2	4
3	3
4	2
5	Withdrawn from the course

Excused Absences - Absences are excused for the following reasons if properly documented in writing: illness such that a medical doctor or ER was visited, death in the immediate family, approved GCC travel, a child that you care for is ill, or transportation to the class was impossible due to a car accident. Absences are not excused if there is no documentation. Notes from parents are not acceptable. It is up to YOU to contact me regarding absences, to check if you missed an assignment, a quiz or important announcement, and to see what we covered in class. Individual assignment instructions in Canvas or handed out in-class will include evaluation criteria.

Late Work / Make-Up Exams

Late work: You must turn in all assignments **complete** and **on time**. *Complete* means you have done everything specified in the assignment instructions. *On time* means within 10 minutes of class start time on the due date. Incomplete assignments will not be graded. Assignments may be turned in early, but I do not accept them late without giving *prior approval* for work to be turned in late.

Make-Up Exams: You must take exams during their scheduled time. A missed exam will receive a grade of zero. If you know ahead of time you will miss an exam you may take it early. You may not take an exam after the class takes the exam unless excused.

Remember, one missed assignment or exam may lower your grade but will not cause you to fail. If your work is incomplete or late, or you must miss an exam for whatever reason (stuck at work, sick, emergency at home, etc.), these are the consequences. For best results, plan ahead, keep up with your coursework, attend class regularly and promptly communicate with your instructor about any issues impacting your academic performance.

Instructor Expectations

Academic Integrity and Student Responsibility

> Violations of scholastic ethics are considered serious offenses by Glendale Community College, the Chemistry Department and by your instructor. Students may consult the GCC Student Handbook at http://www2.gccaz.edu/student-life/office-student-life/student-handbook Students caught cheating will receive a grade of zero on the assignment. Repeat offences will be cause for failing the course. If you believe cheating is occurring, please let me know. Students are responsible for knowledge of the material in the GCC Student Handbook and Catalog.

- Every student in this class is expected to produce his/her own original work.
- Plagiarism is unacceptable and will not be tolerated.
- Plagiarism will result in being dropped from the course with a failing grade.

- Plagiarism will result in actions as outlined in the GCC Student Handbook Student Conduct Code (AR 2.5.2).

Course Outline CHM 107 Tentative Class Schedule

Week of	Topic	Notes
Jan 13	First day, Introduction Ch 1 Air	
Jan 20	Ch. 1 Air	Monday holiday
Jan 27	Ch. 2 Ozone	
Feb 3	Ch. 3 Fossil Fuels	
Feb 10	Ch. 3 Fossil Fuels	
Feb 17	Ch. 4 Climate Change	Monday holiday
Feb 24	Ch. 4 Climate Change	*2/28 Last day to W w/o instructor signature*
Mar 2	Ch. 5 Water	*March 9-15 is Spring Break*
Mar 16	Student presentations 1	
Mar 23	**Wednesday – Midterm Exam Ch. 1-5** Ch. 6 Ocean Acidification	*3/27 Must W from lab if you've W from lecture*
Mar 30	Ch 7 Plastics	
Apr 6	Ch. 8 Drugs	
Apr 13	Ch. 9 Hunger	
Apr 20	Ch. 10 Nuclear	*4/20 Last day to W/Y*
Apr 27	Student presentations 2	
May 4	**12:00 – 1:50 pm Final Exam Ch. 6-10**	

Classroom Behavior

Possession of drugs, alcohol or firearms on college property is illegal. Cell phones, music players, ipods and PDAs must be turned off during class time. During exams, these devices may not be out at all. Students creating disturbances that interfere with the conduct of the class or the learning of others will be asked to leave. Students should be aware of the academic catalog: http://www2.gccaz.edu/gcc-catalog

Course Technology Information

General Statement for Use of Web-Based Third-Party Tools and/or Canvas Learning Tool Integrations

In this class, you will be using web-based third-party tool(s) and/or Maricopa's Canvas Learning Management System Learning Tools Interoperability ("LTIs") to complete or participate in assignments, activities and/or access course materials. You may be required to establish a user name or password, submit work and/or download information from these tools. There is, therefore, some risk that individuals electing to use the products and services made available by these tools may place any student information shared with the tool vendor at a risk of disclosure.

In this class, you will be using:

Canvas

- Terms of Use: https://www.canvaslms.com/policies/terms-of-use-canvas
- Privacy Policy: https://www.canvaslms.com/policies/privacy
- Accessibility statement: https://www.canvaslms.com/accessibility

Proctored / Monitored Exams This course requires proctored/monitored exams.

Student Rights & Responsibilities

You are expected to know and comply with all current published policies, rules and regulations as printed in the college Academic Catalog, Syllabus, and/or Student Handbook. You are expected to know the information in this syllabus.

Academic Catalog: http://www.gccaz.edu/gcc-catalog
Student Handbook: http://www.gccaz.edu/student-life/office-student-life/student-handbook

Classroom Accommodations for Students with Disabilities

In accordance with the Americans with Disabilities Act, the Maricopa County Community College District (MCCCD) and its associated colleges are committed to providing equitable access to learning opportunities to students with documented disabilities (e.g. mental health, attentional, learning, chronic health, sensory, or physical). Each class/term/semester that a student is in need of academic adjustments/accommodations, the qualified student is required to work with the Disability Resources & Services Office (DRS) at their individual college(s). Contact with the DRS should be made as soon as possible to ensure academic needs are met in a reasonable time. New and returning students must request accommodations each semester through DRS Connect online services. To learn more about this easy process, please contact your local DRS office.

If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations, you are welcome to contact DRS by using the information listed on the following webpage: https://district.maricopa.edu/consumer-information/disability-resources/contacts. The DRS offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions qualifying for accommodations/academic adjustments. Reasonable accommodations are established through an interactive process between you, your faculty, and DRS; and only those academic adjustments/reasonable accommodations granted by the DRS are recognized by the college and District. It is the policy and practice of the MCCCD to create inclusive and accessible learning environments consistent with federal and state law. If you are pregnant or parenting (as protected under Title IX) and would like to discuss possible academic adjustments, please contact the Disability Resources & Services Office.

Addressing Incidents of Sexual Harassment/Assault, Dating/Domestic Violence, and Stalking

In accordance with Title IX of the Education Amendments of 1972, MCCCD prohibits unlawful sex discrimination against any participant in its education programs or activities. The District also prohibits sexual harassment—including sexual violence—committed by or against students, District employees, and visitors to campus. As outlined in District policy, sexual harassment, dating violence, domestic violence, sexual assault, and stalking are considered forms of "Sexual Misconduct" prohibited by District policy.

District policy requires all college and District employees in a teaching, managerial, or supervisory role to report all incidents of Sexual Misconduct that come to their attention in any way, including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Incidents of Sexual Misconduct should be reported to the college Title IX Coordinator. MCCCD will provide on its Title IX Coordinators web page, a link to all the Title IX Coordinators in the district. Reports may also be reported at: https://district.maricopa.edu/consumer-information/reporting.