Chemistry 101 CRN 30085 General Chemistry Summer 2016

Schedule: Monday-Friday 8:00-9:45 Science and Math Bldg. Rm. 127

Instructor: Dr. William Veal Office: 315 86 Wentworth
Phone: (843) 953-8045 Email: vealw@CofC.edu

Office Hours: Every day right before or after class.

Class Technical Objectives: This class is an introductory course in chemistry designed primarily for students who would like an overview of chemistry as it relates to the world at large. This course aims to use topics of environmental, biochemical, and industrial relevance to introduce students to atomic structure, chemical bonding, stoichiometry, kinetics, equilibria, acid-base chemistry, and nuclear chemistry. These topics include:

- The connection between our health and the chemistry of the air we breathe.
- The ozone layer and how to protect it.
- The chemistry of global climate change.
- Energy from combustion.
- Water - an essential link to supporting life.
- Acid rain and ocean acidification.
- The role of nuclear chemistry in power, medicine and weapons.
- Energy from electron transfer chemistry.

General Education Learning Outcomes: While there are specific technical objectives for this class, there are also additional goals that need to be addressed that tie the material to the school wide general education goals so that students can apply physical and natural principles to analyze and solve problems, and students will develop an understanding of the impact that science has on society. General Education Learning Outcomes are assessed in the second semester of the two course sequence.

This course is part of a larger educational experience, and as such we will attempt to align the course with the overall vision for the college whose purpose states we should pursue and share knowledge through study, inquiry, and creation in order to empower the individual and enrich society.

The core values of the College of Charleston state we strive for EDUCATIONAL EXCELLENCE that furthers intellectual, creative, ethical, and social development through a broad range of programs centered on the liberal arts and sciences, and that we are a STUDENT-FOCUSED COMMUNITY that embraces mutual respect, collaboration and diversity for the welfare of the individual and the institution.

In order to succeed active participation in learning is the key, so prepare for class every day. The table of Homework Assignments is designed to let you know what topics will be discussed each day and where that material is in the text book. You should read ahead to be ready for the class discussions. You will be asked to participate in the discussions each day. You are always encouraged to ask questions and contribute ideas to class.

The instructor is here to explain the material and help you to the best his time and ability allows. However, the burden of learning is upon you, the student. In order to succeed active participation in learning is the key, so prepare for class every day. A table of Homework Assignments designed to let you know what topics will be discussed each day and where that material is in the text book will be distributed as well as posted on OAKS. **You need to read ahead to be ready for the class discussions**. You will be asked to participate in the discussions each day. You are always encouraged to ask questions and contribute ideas to class.

Honor Code: Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when identified, are investigated. Each incident will be examined to determine the degree of deception involved.

Incidents where the instructor determines the student's actions are related more to a misunderstanding will handled by the instructor. A written intervention designed to help prevent the student from repeating the error will be given to the student. The intervention, submitted by form and signed both by the instructor and the student, will be forwarded to the Dean of Students and placed in the student's file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on the student's transcript for two years after which the student may petition for the X to be expunged. The student may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board.

Students should be aware that unauthorized collaboration--working together without permission-- is a form of cheating. Unless the instructor specifies that students can work together on an assignment, quiz, and/or test, no collaboration during the completion of the assignment is permitted. Other forms of cheating include possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer), copying from others' exams, fabricating data, and giving unauthorized assistance.

Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the instructor.

Attendance Policy: Attendance is expected at all classes. Students are responsible for all information presented in class. It is imperative that you attend class and also to arrive promptly. If you arrive late for a quiz, test, or the final exam, instructions will not be repeated nor will you receive additional time to complete the assignment. Any work missed will be given a zero and averaged into the final grade.

Please note that an Absence Memorandum from the Office of Undergraduate Studies only verifies your documentation for missing a class. It does not entitle you to make up or be excused from any work, assignment, quiz, or test. You should obtain notes from a classmate, read the associated material in the text, and then come ask me questions.

Responsibilities: It is expected that for every hour spent in lecture that you will spend a minimum of 2-3 hours of study. The instructor is here to explain the material and help you to the best of his time and ability. However, the burden of learning is upon you, the student.

Co-requisites and Prerequisites: Chemistry 101L is a co-requisite for Chemistry 101. Competency at the mathematics 101 level and beyond is suggested. Chemistry 101 is not open to students who have taken Chemistry 111 or 112. If you are repeating the lecture or lab and do not need to repeat the co-requisite course you must remedy this with the department chair before the close of Drop/Add. The last day to Drop/Add is Friday, June 3 at 5:00 p.m. Tuesday, June 21 is the last day to withdraw from Summer I classes with a grade of "W".

Texts: One of three options can be used to access the course material. You also need a basic calculator.

ISBN 9781259381003 –Loose leaf binder ready version (COLLEGE OF CHARLESTON) CHEM 101/102: PPK Chemistry in Context with 1 year access Connect Plus card

ISBN 9781259387692- on-line only version of the book (COLLEGE OF CHARLESTON) CHEM 101/102: Connect Plus Chemistry 1 Year Physical Access Card for Chemistry in Context

ISBN 9781259387784 – ON line only version available at McGraw Hill site. COLLEGE OF CHARLESTON) CHEM 101/102: Ecommerce for Connect Plus Chemistry 1 year Online Access for Chemistry in Context

OAKS: Course material, study tools, and additional information will be provided for students on OAKS. You can access OAKS through the College of Charleston MyCharleston website. Go to https://my.cofc.edu/cp/home/displaylogin, login into MyCharleston using your system login ID and password. Once you are in the "MyCharleston system, click on OAKS icon at the top of the page, and you will be taken to the OAKS site. The course material will be under the Student tab for MyCourses.

Tests: There will be three chapter tests over the material from the lectures and the text. If you need to be out of town on official College of Charleston business, tests may be taken ahead of time if prior approval is obtained. Each test will be worth a potential 200 points towards the final grade. Your lowest test grade percentage will be replaced by your final exam grade percentage if it is higher than your test grade (e.g. if you miss a test it is a zero and in its place the grade for the final exam will be used).

Final: The Final Exam may be a cumulative 55 minute multiple choice American Chemical Society Standardized test. Material from the laboratory course may also be included. The exam was written by a board of chemistry professors who are members of the American Chemical Society. Absence from the final exam will result in the grade of "X" being assigned which converts to an "F" within 48 hours unless an excused absence has been granted by the dean in the Office of Undergraduate Studies. Requests for an alternate final exam time must be processed through the Office of Undergraduate Studies no later than 5 p.m. on the last day of class. If you arrive late to the final examination you will be required to have an admission slip from the Dean of Undergraduate Studies. The final will be held on Friday 7/1 from 8 until 10.

Quizzes: During the semester quizzes will be given using on-line resources. The quizzes will be based on the material covered in the chapter, and will be used to assess where additional effort is needed to ensure understanding of critical elements in the course material. All quizzes will be accessed through the CONNECT interface at the McGraw Hill website. Students will need to register the first week of classes using the access code that comes with their book. The quizzes will close at 10:00 pm on the day they are listed on the syllabus schedule below. Whatever your progress is at that point in time will be the graded result you will receive.

LearnSmart Homework: An interactive learning tool from McGraw Hill developed for this book will be the homework system used to develop your skills. The homework will be graded as an all or nothing result. Each LearnSmart module will take on average 60 minutes to complete. If you have completed the LearnSmart module for the chapter you will earn a full 10 points for the assignment, otherwise your score will be zero. The LearnSmart modules will close at 11:59 pm on the day they are listed on the syllabus schedule below.

Final Grades: FERPA (The Family Educational Rights and Privacy Act) prevents me from posting grades and from emailing you or telling you your grade over the phone. Please see scores in OAKS.

Grading All grading will be assigned on a points scale (points and percentages may change):

Tests - 3 total	200 pt each	600
Final Exam - ACS standardized	200 pt	200
LearnSmart modules	10 pt each	90
Chapter Quizzes	10-12 pt each	100
Total (approximate)		990

Grading Scale (approximate points):

A	920-1000	C	720-749
A-	890-919	C-	690-719
B+	860-889	D+	650-689
B	810-859	D	620-649
B-	780-809	D-	600-619
C+	750-779	F	Below 600

Grading Scale (Percentage):

Percentage (%)	Grade
93 - 100	A
90 - 92	A-
87 - 89	B+
83 - 86	B
80 - 82	B-
78 - 79	C+
75 - 77	C
73 - 74	C-
72	D+
71	D
70	D-
Below 70	F

Snap Students: Any student eligible for and in need of academic adjustments or accommodations because of a disability is requested to speak with the professor during the first two weeks of classes.

International Students: Federal regulations mandate that all international students report to the International Office for a "document check" within 10 days of the beginning of the semester. Failure to comply with this mandate will result in automatic termination of a student's visa. Please contact the College's Office of International Education and Programs if you have any questions.

Electronics Device Policy: Devices whose usage is prohibited in class at any time are: pagers, cell phones, radios, TV, CD, DVD, and MP3 players and similar devices. Devices that are allowed to be used at certain times during class, except during tests, exams and quizzes are laptops, handheld computers, PDAs, electronic pens, calculators, and similar devices. The sound must be off unless otherwise specified by the instructor. During tests, exams, and quizzes no electronic devices are allowed to be on or in sight, unless otherwise specified by the instructor.

Email: Email is considered an official method for communication at the College of Charleston. If a student wishes to have email redirected from their official college issued account to another email address, they may do so, but at their own risk. Having email redirected does not absolve the student from the responsibilities associated with official communication sent to his or her College account. Students are expected to check their College of Charleston official email on a frequent and consistent basis in order to remain informed of College related communications. Checking email on a daily basis is recommended.

Date	In-class discussion	Topics	Reading Assignment	Learn Smart and quiz due dates
6/3	Course outline, Chapter 0 Chapter 1	Discuss chemistry as it impacts you, access CONNECT and OAKS Units of measurement and Conversion Factors	Chapter 0, Chapter 1	
6/6	Chapter 1	The air we breathe, and how it relates to concentrations		Chapter 0 LS
6/7	Chapter 1	Atoms and molecules and the periodic table Balancing equations, and more about molecules		Chapter 1 LS
6/8	Chapter 2	Protecting the ozone layer, and what ozone is Periodic properties and Lewis structures	Chapter 2	Chapter 1 quiz
6/9	Chapter 2	A brief discussion of energy and quantum mechanics		Chapter 2 LS
6/10	**Test 1**	**Chapters 0, 1, & 2**		
6/13	Chapter 3	Global Climate change concepts, and how molecular geometry impacts the atmosphere	Chapter 3	Chapter 2 quiz
6/14	Chapter 3	How to relate individual molecules to the macro world through Avogadro's number		Chapter 3 LS, Chapter 3 quiz
6/15	Chapter 4	Energy from combustion and conversions	Chapter 4	
6/16	Chapter 4	Calorimetry and thermodynamics Bond Energy		Chapter 4 LS
6/17	**Test 2**	**Chapters 3 & 4**		
6/20	Chapter 5	Water as a solvent and a medium for life and interatomic forces	Chapter 5	Chapter 4 quiz
6/21	Chapter 5	Polarity and concentration concepts Ionic compounds and solubility		Chapter 5 LS
6/22	Chapter 6	Acid rain and neutralization	Chapter 6	Chapter 5 quiz
6/23	Chapter 6	Measuring the strength of acids and bases		Chapter 6 LS
6/24	Chapter 6	Atmospheric chemistry and pollution		Chapter 6 quiz
6/27	Chapter 7	Nuclear Energy and radioactive materials Decay processes and half-life determination	Chapter 7	Chapter 7 LS
6/28	**Test 3**	**Chapters 5, 6, & 7**		
6/29	Chapter 8	Energy from electron transfer	Chapter 8	Chapter 7 quiz
6/30	Chapter 8	Batteries, fuel cells and photovoltaics		Chapter 8 quiz
7/1	Final exam			

Reading Assignments

This table is a list of the sections within each chapter for which you will be responsible. The sections below will form the basis for all LearnSmart quizzes and Chapter quizzes.

Date	Reading Assignment	Pages	Topics	Learn Smart and quiz due dates
6/3	Chap. 0: 0.1-0.6 Chap. 1: 1.1-1.12	3-13 17-49	Sustainability	
6/6			The air we breathe, and concentrations Air quality	Chap. 0 LS Chap. 1 LS
6/7			Atoms and molecules and the periodic table Balancing equations	Chap. 1 quiz
6/8	Chap. 2: 2.1-2.9	65-92	Ozone Layer Periodic properties (e^-, p^+, n^0) Lewis structures	Chap. 2 LS
6/9			Energy and quantum mechanics Waves of light	Chap. 2 quiz
6/10	**Test**		**Chaps. 0, 1, & 2**	
6/13	Chap. 3: 3.1-3.7	108-130	Greenhouse gases Molecular shape	Chap. 3 LS
6/14			Carbon cycle Mass, molecules, and moles	Chap. 3 quiz
6/15	Chap. 4: 4.1-4.6	156-178	Energy from combustion (gas and coal)	Chap. 4 LS
6/16			Energy Changes	Chap. 4 quiz
6/17	**Test**		**Chaps. 3 & 4**	
6/20	Chap. 5: 5.1-5.9	204-230	Water and Hydrogen Bonding (Polarity) Solutions: solutes (concentration concepts)	Chap. 5 LS
6/21			Ionic compounds and solubility Covalent compounds and solubility	Chap. 5 quiz
6/22	Chap. 6: 6.1-6.10	248-270	Acid rain and neutralization	Chap. 6 LS
6/23			Measuring the strength of acids and bases	Chap. 6 quiz
6/24			Atmospheric chemistry and pollution	
6/27	Chap. 7: 7.1-7.4, 7.8	288-302 315-319	Nuclear Energy and radioactive materials Decay processes and half-life determination	Chap. 7 LS Chap. 7 quiz
6/28	**Test**		**Chaps. 5, 6, & 7**	
6/29	Chap. 8: 8.1-8.5,	336-352	Energy from electron transfer	Chap. 8 LS
6/30	8.7	356-364	Batteries, fuel cells and photovoltaics	Chap. 8 quiz
7/1	**Final Exam**		**Chaps. 0-7**	