CHE 111: Elementary Inorganic Chemistry I

Course Requirements
Morehouse College
Fall 2017

Instructor:	Wallace D. Derricotte	**Time:**	MWF 9:00am – 9:50am
Email:	wallace.derricotte@morehouse.edu	**Place:**	111 Merrill Hall
Office:	343 Merrill Hall	**Office Hours:**	M 1:00PM - 4:00PM

Online Course Page: All lecture media for this course will be made available via my personal web page at `www.derricotteresearchgroup.com` under the "Teaching" tab and Blackboard. It is recommended that you check online resources regularly throughout the semester for lectures and other information pertaining to the course. If you require assistance in accomplishing these tasks, please see the instructor.

Textbook: *Chemistry*, 9th Edition, by Steven S. Zumdahl and Susan A. Zumdahl, BROOKS/COLE

Course Description: Part of a two-semester course sequence (111/112), Chemistry 111 provides an overview of the different sub-disciplines of chemistry. This course is designed to give the aspiring scientist/engineer a firm foundation in chemistry with which to begin his/her technical career. This course will demonstrate to students the importance and impact that both science and chemistry, in particular, have on society. Students will be introduced to the basic tools of chemistry, experimentation and measurement (as they relate to the three common states of matter), as well as basic chemical nomenclature and reactivity types. Topics covered include elementary structure of atoms and molecules, chemical reactions, stoichiometry, introduction to quantum chemistry, phases of matter and phase changes, and thermodynamics.

Pre-Requisites: No pre-requisites required, student must be concurrently enrolled in the accompanying lab (CHE 111L) and recitaton (CHE 111R) courses.

- **NOTE:** The Department will confirm the prerequisites and co-requisites for each student in this class. If a student is found to not have the proper prerequisites and co-requisites, they will be immediately and involuntarily withdrawn from the course, regardless of time spent in the course or performance in the course. If you believe that you do not have the proper prerequisites and co-requisites, or you have questions regarding the prerequisites and co-requisites, you should notify your instructor immediately.

Course Presentation: Course presentation will be in the form of lectures, small group exercises, demonstrations, and on-line presentation/exercises.

Course Objective: The student is expected to become proficient in the knowledge of chemistry and its governing scientific principles.

Attendance: Morehouse College attendance rules will be enforced. Students are expected to attend each class meeting. Students with more than three (3) unexcused absences will be referred to the Office of Student Success and may be administratively withdrawn from the course. Failure to meet minimum attendance requirements may result in the loss of the students financial aid in accordance with federal financial aid requirements.

Inclement Weather Policy: In the event of inclement weather, the College will announce any closures via the emergency notification system and/or through local news outlets. Absent an official closure, students are not excused from attending class due to weather and any absences will be considered unexcused.

Tentative Exam Schedule: There will be four in-class examinations and one final exam given during the semester. Your lowest exam score will be dropped from your final grade.

Exam 1	September 29th, 2017
Exam 2	October 20th, 2017
Exam 3	November 10th, 2017
Exam 4	November 27th, 2017
Final Exam	TBD

Course Grading: Quizzes (10%), PLTL Participation (5%), Homework (25%), Exams (40%), Final Exam (20%).

Evaluation: Students must earn a grade of C or better to pass this course. If a student receives a grade of C- or less in this class, they will not be allowed to register in the next chemistry course along this sequence. Please note that all grades are final. No adjustments to grades will be made after the close of semester, except in the case of the grade of incomplete, I (see below) or incorrect grades given due to instructor error.

90–100	A	85–89	A-	80–84	B+	75–79	B	70–74	B-
65–69	C+	60–64	C	55–59	C-	50–54	D	< 50	F

Recitation: Recitation is provided to support you in your efforts to be successful in this course. When you register into a lab for this course, you must also register into a recitation session for chemistry, as well (HCHE 111R). The recitation portion of this course follows the Peer-Lead Team Learning (PLTL) format, your attendance and participation in PLTL is mandatory and will account for 5% of your overall grade.

Incomplete: A grade of incomplete will be given only when a student has completed the majority of the course requirements, as specified by the instructor. The student must provide a written excuse, signed by the appropriate university official excuse (e.g., Dean of Students, Division Dean, etc.) indicating a legitimate reason for not completing the course by the close of semester, The student must complete the required course work in the next semester on or before the date indicated by the Registrars Office or the grade will be converted into an F.

Academic Honesty: Morehouse College students are expected to conduct themselves with the highest level of ethics and academic honesty at all times and abide by the terms set forth in the Student Handbook and Code of Conduct. Instances of academic dishonesty, including, but not limited to plagarism and cheating on examinations and assignments, are taken seriously and may result in a failing grade for the assignment or course and may be reported to the Honor and Conduct Review Board for disciplinary action. For this course, cheating on homework, quizzes, and examinations will not be tolerated and will result in a grade of zero on the assignment for the first offense, and for a second offense, the student will be immediately and involuntarily withdrawn from the course, and will receive a grade of F. A second offender will also be reported to Honor and Conduct Review Board for disciplinary action, including possible dismissal from the college.

Tentative List of Topics:

- Quantitative Skills/Dimensional Analysis
- Liquids and Solids
- The Gaseous State
- Energy and the Hydrogen Atom
- Quantum Theory: Atomic Structure
- Chemical Bonding: The Classical Description
- Quantum Chemistry

Educational Outcomes:

- Understand that chemistry is an experimental science
- Appreciate the scientific method and its use
- Describe the properties and classifications of matter
- Be familiar with various methods used to determine the composition, structure, and/or purity of chemical species
- Recall, from memory, the evidence indicating that a chemical reaction has occurred
- Identify the ideal gas law and related experimentally derived laws (Boyles, Charles, Avogadros, etc.)
- Utilize the same to predict the outcome in a system of gases that result from changes in pressure, volume, temperature, or composition
- Analyze experimental data
- Understand why chemical reactions occur
- Understand what changes take place in a chemical reaction both at the micro- and macroscopic levels
- Relate the properties of solutions that differ from pure liquids
- Understand the fundamental theories which explain chemical reactions
- Understand some of the uses of chemical reactions
- Have a conceptual level understanding of all knowledge covered
- Appreciate that while science helps to explain the world around us, this knowledge must be combined with a strong sense of ethical values
- Understand and utilize the process of reaction stoichiometry to predict the outcomes or inputs to a given chemical process
- Use appropriate analytic, numerical, and experimental tools to investigate chemical systems
- Begin communicating effectively using oral, written, and/or graphical means
- Understand the basic principles of chemical reactions and the rates at which they occur
- Recognize the broad social context, both historical and contemporary, within which chemistry has been and continues to be practiced