GRAYSON COLLEGE
Course Syllabus

CHEM 1311 General Chemistry 1 and CHEM 1111 General Chemistry 1 Lab
Spring 16-week Term

Professor Contact Information
Instructor: Dr. Jane Johnson-Carr
Email:
Office Location:
Office Hours:
Office Phone
Science Office Phones:

Course Pre-requisites, Co-requisites, and/or Other Restrictions
Although students must register for a separate course number for lab and lecture, the two "courses" are in fact the same course and are separated for scheduling and reporting reasons. Your final grade is derived from the combination of your lecture and laboratory grades. Together the lecture and laboratory satisfy the state learning objectives (CS1, CT2, CT3, EQS2, and TW1) and therefore must be taken concurrently.

Concurrent enrollment in CHEM 1111 lab is required. Successful completion with a grade of C or better in MATH 1314 or equivalent course required. High school chemistry strongly recommended. College readiness in reading and math required.

Course Description – from college catalog
Fundamental principles of chemistry for majors in the sciences, health sciences, and engineering; topics include measurements, fundamental properties of matter, states of matter, chemical reactions, chemical stoichiometry, periodicity of elemental properties, atomic structure, chemical bonding, molecular structure, solutions, properties of gases, and an introduction to thermodynamics and descriptive chemistry. Basic laboratory experiments supporting theoretical principles presented in lecture; introduction of the scientific method, experimental design, data collection and analysis, and preparation of laboratory reports.

Student Learning Outcomes

Upon successful completion of this course, students will:

1. Define the fundamental properties of matter.
2. Classify matter, compounds, and chemical reactions.
3. Determine the basic nuclear and electronic structure of atoms.
4. Identify trends in chemical and physical properties of the elements using the Periodic Table.
5. Describe the bonding in and the shape of simple molecules and ions.
6. Solve stoichiometric problems.
7. Write chemical formulas.
8. Write and balance equations.
9. Use the rules of nomenclature to name chemical compounds.
10. Define the types and characteristics of chemical reactions.
11. Use the gas laws and basics of the Kinetic Molecular Theory to solve gas problems.
12. Determine the role of energy in physical changes and chemical reactions.
13. Convert units of measure and demonstrate dimensional analysis skills.

L1. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory.
L2. Demonstrate safe and proper handling of laboratory equipment and chemicals.
L3. Conduct basic laboratory experiments with proper laboratory techniques.
L4. Make careful and accurate experimental observations.
L5. Relate physical observations and measurements to theoretical principles.
L6. Interpret laboratory results and experimental data, and reach logical conclusions.
L7. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.
L8. Design fundamental experiments involving principles of chemistry.
L9. Identify appropriate sources of information for conducting laboratory experiments involving principles of chemistry.

Required Textbooks (ISBN # included) and Materials

Chemistry: Atoms First 2 edition by OpenStax
https://openstax.org/details/books/chemistry-atoms-first-2e

CHEM 101

Canvas Access to Lab Report Sheets (printed from Canvas, no separate laboratory manual)

Scientific Calculator

Safety Goggles

Required Assignments & Academic Calendar

In case of inclement weather, emergency closings, or other unforeseen disruptions to scheduled classes, student must log onto their Canvas accounts for directions on where or how to continue their coursework.

C101 = CHEM101 Homework Assignment or Timed Quiz
PS = Practice Sheet found in Canvas Module
VQ = Video Quiz found in Canvas

	Week Starting	Lecture Content	Homework Problems	Quizzes	Laboratory Experiment
1		Chapter 1	C101 Chap 1Conversions PS Dimensional Analysis	C101 1-Math C101 1-Concepts VQ #1	#0 Safety and #1 Data Analysis
2		Chapter 2	C101 Counting P/N C101 Avg At. Mass	C101 2-Concepts VQ#2	#2 Density of Liquids and Solids
3		Chapter 2	C101 Electrons and q.n. PS Box Diagrams	VQ #3A	#3 Separating a Heterogeneous Mixture
4		Chapter 3	C101 Particles and Trends PS spdf Notation	C101 3-e Config C101 3-Periodic Trends VQ #3B, #3C	#4 Rutherford Simulation
5		Chapter 4	C101 Ionic Nomenclature C101 Ionic Nomenclature 2 C101 Hydrate & Covalent	**EXAM 1**	#5 The Alkaline Earths and the Halogens (**EQS)**
6		Chapter 4	C101 Lewis Structures 1 C101 Lewis Structures 2	C101 4-Bonding VQ#4B, #4C	#6 Recycling Aluminum to Alum
7		Chapter 5	C101 Geometry C101 Hybridization	C101 5-Bonding VQ#5	#7 Geometrical Structure of Molecules
8		Chapter 6	C101 Empirical Formulas PS Empirical and Molecular C101 Mole Conversions	C101 6-Mole Conversions VQ#6	#8 Determination of a Chemical Formula
	SPRING BREAK				
9		Chapter 7	C101 Balancing Eqs PS Balancing Eqs Medium PS Net Ionic Rxns	**EXAM 2**	#9 Reactions in Solution
10		Chapter 7	C101 Stoichiometry w/Tracks C101 Limiting Reactant PS Stoichiometry	C101 7-Stoichiometry VQ #7A	#10 Reaction Stoichiometry **(CT2, CT3)**
11		Chapter 7	PS Titration/Gravimetric	VQ #7B VQ #7C	#11 Standardization of NaOH and Determination of the MM of an Acid
12		Chapter 8	C101 Gas Calculations PS Gas Stoichiometry	**EXAM 3**	#12 Determination of Sulfate by Gravimetric Analysis
13		Chap 8	C101 Energy Calcs PS Calorimetry	C101 8-Gas Concepts VQ #8	#13 Heat Effects and Calorimetry
14		Chap 9	C101 Hess's Law	C101 9 –Concepts VQ#9A, #9B	#14 Redox Titration
15		Chap 9	PS Hess's Law	**EXAM 4**	**Laboratory Exam**
16		**Final Exam during Class Meeting Time**			

Methods of Evaluation

Lecture Exams
Five (5) exams will be administered throughout the semester relating to the lecture portion of the course. *The 4 Unit Exams will be taken in the testing center on the main campus*. *The student is responsible for arranging to take the exam during the testing window*. All exams will be cumulative throughout the course and will consist of multiple choice and short answer questions. The Final Exam is required and will be administered during class time during finals week. If the final exam is higher than the lowest previous exam grade, it may be used to replace that lowest exam grade.

One (1) exam will be given at the end of the laboratory portion of the course. This exam will consist of questions primarily related to laboratory procedures and calculations and may not be replaced by the lecture final.

There are no makeup exams! If you know you will be unable to take a test during the assigned time, contact me **PRIOR** to the test to make arrangements to take the test at another time. Decisions concerning alternative testing times are strictly the discretion of the professor.

Students must bring a scantron and scientific calculator to every exam. Cell phones may not be used as calculators. If a graphing calculator is used, the memory must be cleared prior to the exam.

Exam grades will be posted in Canvas. Students may view their exams after grading, but the instructor will keep all exams and scantrons.

Success in chemistry is strongly linked to completing homework and reading assignments. Homework problems and practice sets will be factored into an overall homework grade, which will be equal to a unit exam grade in value. CHEM101 and video quizzes must be completed weekly; typically, by Sunday at 11:59 pm and will also be equal to an exam grade. Extensions on assignments are at the discretion of the instructor. LATE WORK WILL GENERALLY BE ASSIGNED A 10 % PER DAY PENALTY. NEGATIVE GRADES ARE POSSIBLE.

Laboratory reports
Weekly lab report grades will be averaged together and will be equivalent to 2 exam grades

The points allotted to each laboratory report are as follows:

Pre-Lab Assignment	10 pts
Actual Lab work	60 pts.
Results (Precision and Accuracy)	Up to 30 pts

Report Sheets for every experiment are posted in Canvas. The student is responsible for printing the correct report sheet **BEFORE** coming to lab. A 10 point penalty will be issued for not using the correct lab sheet

Pre-Lab Assignments are posted on each lab sheet in Canvas and must be completed **BEFORE** the beginning of the laboratory period.

Precision and Accuracy grades will be applied to experiments with quantifiable results.

Laboratory reports are to be handed in at the end of the scheduled lab period, unless specified otherwise by the instructor. EACH STUDENT MUST TURN IN HIS/HER OWN INDIVIDUAL REPORT. A penalty of 10 % PER DAY will be assessed to lab reports turned in late. Lab reports will be returned to the student in a timely manner.

A student must earn an average grade of at least 50% on lab reports to receive a passing grade for CHEM 1311/1111. If a student's lab report average is below 50 %, they will receive an F grade for both courses, regardless of the actual course grade calculated below.

To determine student's final grade:

If the final exam grade is greater than any lecture exam grade

1. Add up points earned on 3 highest scoring lecture exams
2. Add the final exam grade x 2
3. Add the points earned on the laboratory final
4. Add the average points earned on weekly lab reports x 2
5. Add the percentage of points earned on homework and classwork (points will be posted in Canvas)
6. Add the percentage of points earned on quizzes (points will be posted in Canvas)
7. See chart below

If the final exam grade is the lowest exam grade

1. Add up points earned on all 4 lecture exams
2. Add the final exam grade
3. Add the points earned on the laboratory final
4. Add the average points earned on weekly lab reports x 2
5. Add the percentage of points earned on homework and classwork (points will be posted in Canvas)
6. Add the percentage of points earned on quizzes (points will be posted in Canvas)
7. See chart below

Final Grade

Grades are based on total points earned. Percentages are for comparison purposes only

percent	Points earned	Letter grade
90-100%	**900-1000**	**A**
80-89%	**800-899**	**B**
70-79%	**700-799**	**C**
60-69%	**600-699**	**D**
<60%	**<599 pts or < 50 % in lab**	**F**

Methods of Instruction
Lecture: On-line with video instruction and CHEM101 tutorials

Lab: Face-to-Face course involving hands-on experimentation 3 hrs/week on campus,
Students will work individually to complete laboratory experiments

Testing conducted on campus in Testing Center. Use link in Canvas to schedule testing appointments.

Course & Instructor Policies

Students, who drop the Chemistry 1311 lecture course, must also withdraw from the Chemistry 1111 lab course.

Laboratory Safety Policies:

Chemical splash goggles must be worn in the chemistry laboratory anytime chemicals, glassware or heat are used. **NO EXCEPTIONS**. Safety "glasses" are not acceptable. This includes during lab cleanup or when any group, regardless of location, is still conducting an experiment. Students will be given only 1 warning during a laboratory period. If the student is caught without goggles later in the period, they will be dismissed from the lab and receive a grade of 0 for the experiment.

Students are not allowed to wear flip-flops, sandals or open toed shoes in the laboratory. Shoes must cover the top of the foot. Students without proper footwear will be sent home to change. Students will not be given extra time to complete labs due to coming in inappropriate footwear.

It is strongly recommended that students wear long pants or long skirts and refrain from shorts and short skirts. Laboratory coats and aprons are permitted but will not be provided.

Students with long hair are encouraged to pull their hair back or put it up. Loose hair can be a serious hazard.

Although "accidents" do happen in the laboratory, glassware breakage is generally preventable. If laboratory equipment is damaged or broken due to carelessness, the student will be charged up to 10 points on the daily lab report grade for each item broken or damaged.

In order to protect our local water supply, students are required to follow all chemical waste disposal guidelines given by the instructor. Failure to comply with proper waste disposal will result in a 10 point penalty for each infraction.

Class Attendance
Academic success is closely associated with regular classroom attendance and course participation. Any student missing more than 20% of the class meetings (more than 3 unexcused absences) or excessively tardy (routinely more than 20 minutes late) will have their final class grade lowered by 1 letter grade. Any student missing more than 50 % of class meetings (7 unexcused absences) will receive an automatic F grade, regardless of actual earned grade.

STUDENTS ARE REQUIRED TO ATTEND THE LABORATORY SESSION THEY ARE ENROLLED IN. If a student must be unavoidably absent from lab, they must secure permission **IN ADVANCE** from the instructor to make up the lab at another time. Unexcused absences will receive a grade of 0 for the experiment. Decisions concerning alternative laboratory times and/or assignments are strictly the discretion of the instructor.

All successful students, whether on campus or online, are expected to be highly self-motivated.

All students are required to participate in courses regularly and are obliged to participate in class activities and complete and submit assignments following their professors' instructions. Students taking courses during compressed semester time frames such as mini-mester, summer sessions, and mid-semester should plan to spend significantly more time per week on the course. Responsibility for work missed because of illness or school business is placed upon the student. More than two (2) absences are considered to be excessive. In addition, students' eligibility to receive financial aid or live in a College dormitory can be affected by withdrawal from courses. When withdrawal occurs, any tuition refund would be made in accordance with state regulations.

Student Conduct & Discipline

All cell phones and other electronic devices must be turned off or to silent before entering the classroom. Texting during class means you are not paying attention and is unacceptable behavior. Cell phones may be used during class for legitimate educational purposes (accessing periodic tables or other chemistry apps)

Students may use laptop computers or tablets during class but are expected to be using them for chemistry classwork only. Students using laptops for other purposes will be asked to turn them off or leave the classroom.

Student Responsibility
You have already made the decision to go to college; now the follow-up decisions on whether to commit to doing the work could very well determine whether you end up working at a good paying job in a field you enjoy or working at minimum wage for the rest of your life. Education involves a partnership that requires both students and instructors to do their parts. By entering into this partnership, you have a responsibility to show up for class, do the assignments and reading, be engaged and pay attention in class, follow directions, and put your best effort into it. You will get out of your experience here exactly what you put into it – nothing more and nothing less.

Plagiarism

Plagiarism is a form of scholastic dishonesty involving the theft of or fraudulent representation of someone else's ideas or words as the student's original work. Plagiarism can be intentional/deliberate or unintentional/accidental. Unintentional/Accidental plagiarism may include *minor* instances where an attempt to acknowledge the source exists but is incorrect or insufficient. Deliberate/Intentional plagiarism violates a student's academic integrity and exists in the following forms:

- Turning in someone else's work as the student's own (such as buying a paper and submitting it, exchanging papers or collaborating on a paper with someone else without permission, or paying someone else to write or translate a paper),
- Recycling in whole or in part previously submitted or published work or concurrently submitting the same written work where the expectation for current original work exists, including agreeing to write or sell one's own work to someone else,
- Quoting or copy/pasting phrases of three words or more from someone else without citation,
- Paraphrasing ideas without citation or paraphrasing incompletely, with or without correct citation, where the material too closely matches the wording or structure of the original,
- Submitting an assignment with a majority of quoted or paraphrased material from other sources, even if correctly cited, when original work from the student is expected,
- Copying images or media and inserting them into a presentation or video without citation,
- Using copyrighted soundtracks or video and inserting them into a presentation or video without citation,
- Giving incorrect or nonexistent source information or inventing source information,
- Performing a copyrighted piece of music in a public setting without permission,
- Composing music based heavily on someone else's musical composition.

Infractions may result in disciplinary options on behalf of the faculty member and/or dean.

TITLE IX

GC policy prohibits discrimination on the basis of age, ancestry, color, disability, gender identity, genetic information, national origin, race, religion, retaliation, serious medical condition, sex, sexual orientation, spousal affiliation and protected veterans status.

Furthermore, Title IX prohibits sex discrimination to include sexual misconduct: sexual violence (sexual assault, rape), sexual harassment and retaliation.

For more information on Title IX, please contact:

Dr. Regina Organ, Title IX Coordinator (903-463-8714)
Mr. Brad Bankhead, Title IX Deputy Coordinator- South Campus (903) 415-2601
Mr. Mike McBrayer, Title IX Deputy Coordinator (903) 463-8753

Website: http://www.grayson.edu/campus-life/campus-police/title-ix-policies.html
GC Police Department: (903) 463-8777- Main Campus (903) 415-2501 - South Campus
GC Counseling Center: (903) 463-8730
For Any On-campus Emergencies: 911

Grayson College campus-wide student policies may be found on our Current Student Page on our website: http://grayson.edu/current-students/index.html

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COVID-19

Grayson College continues to monitor the evolving COVID-19 situation and align our college planning with guidance from the local and state health officials. Our primary goal is to protect the health and safety of our students, faculty, staff, and the Grayson community, while delivering quality education. We will continue to communicate as more information becomes available.

Safety requirements for students, faculty, staff, and the general public will be posted and kept current, so please stay tuned to your Viking email and the COVID 19 page on the Grayson College website for additional information or other changes that may be announced.

Grayson College COVID-19 Safety Protocol
The best way to prevent illness is to avoid being exposed to this virus. However, as a reminder, the Centers for Disease Control and Prevention (CDC) always recommends everyday preventive actions to help prevent the spread of respiratory diseases, including:

- Wash your hands often with soap and water for at least 20 seconds, especially after going to the bathroom; before eating; and after blowing your nose, coughing, or sneezing. If soap and water are not readily available, use an alcohol-based hand sanitizer with at least 60% alcohol.
- Always wash hands with soap and water if your hands are visibly dirty. For information about handwashing, see CDC's Handwashing website.
- Avoid touching your eyes, nose, and mouth.
- Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
- Avoid close contact with people who are sick.
- Stay home when you are sick.

Grayson College COVID-19 Instructional Guidelines
Grayson College continues to monitor information relating to the COVID-19 Pandemic. The College has taken steps to ensure that as many of our programs/courses can continue in the event that the College must re-institute partial and/or full campus closure to the public. Quality education will be moved to a remote delivery format, when feasible, which includes one or more of the following methods:

- Live Streaming instruction (synchronous)
- Recorded instruction (asynchronous)
- Online or web activities using the Canvas platform
- Video capture, both live and recorded sessions
- Use of open educational resources (OER) in place of traditional textbooks

Grayson College COVID-19 Lab Safety Protocol
In accordance with the Texas Department of Health and Human Services, Grayson College will follow these guidelines: Groups of 9 of less may be scheduled for small group labs, where hands-on skills are necessary to be practiced or demonstrated

Social distancing will be practiced to reduce the risk of transferring germs
Faculty and students will be screened prior to entering a lab or classroom, which will include:

- Taking each person's temperature
- Asking CDC-standard questions

All persons will wash hands with soap and water upon admittance Students and faculty will participate in sanitation and cleaning of equipment and workspace at the conclusion of each session
Students are encouraged to:

- Log in to Canvas and communicate with your faculty as needed.
- Study and complete assignments in a timely manner
- Ask questions along the way

Grayson County College is not responsible for illness/injury that occurs during the normal course of classroom/lab/clinical experiences.

These descriptions and timelines are subject to change at the discretion of the Professor.

Grayson College campus-wide student policies may be found at the Current Student link on the Grayson Website
http://grayson.edu/current-students/index.html