CHEM 103: GENERAL CHEMISTRY
SECTIONS 040 & 070

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INSTRUCTIONAL TEAM INFORMATION
CHEM 103 Instructor:
Name: Jacqueline L. Fajardo, Ph.D.
Offices: 169 Brown Lab & ISEL 402 G
Email: jfajardo@udel.edu
Office Hours: See Canvas for weekly hours
  Also available by appointment

CHEM 103 Teaching Assistants:
Names: TBD
Office: QDH 308
Office Hours: TBD

Brown Laboratory
Interdisciplinary Science and Engineering Laboratory
Colicin B – beautiful structure, amazing function!
REQUIRED MATERIALS

1. Sapling online homework access (see Table 1 for options)
2. Chemistry: The Science in Context by Gilbert, T., Kirss, R., Foster, N., & Davies, G. book. 4th ed. (see Table 1 for options)

   Please choose one of the following packages that best suits your needs

<table>
<thead>
<tr>
<th>Sapling Homework</th>
<th>Gilbert Chemistry text</th>
<th>1 semester ISBN</th>
<th>2 semester ISBN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online</td>
<td>eBook</td>
<td>0-393-25078-7</td>
<td>0-393-25079-4</td>
</tr>
<tr>
<td>Online</td>
<td>Loose-leaf print book + eBook</td>
<td>0-393-27563-6</td>
<td>0-393-27561-2</td>
</tr>
<tr>
<td>Online</td>
<td>Hardcover print book + eBook</td>
<td>0-393-27564-3</td>
<td>0-393-27562-9</td>
</tr>
</tbody>
</table>

*note: the online only options can also be purchased directly from Sapling through the Canvas “Assignment” portal.*

If you would like to rent a hard copy of the book in addition to the digital options, you can do this at Liebermann’s or Barnes & Noble. The solutions manual for this textbook will be available for a 2-hour loan period at Course Reserves in the Brown Laboratories Library.


   NOTE: Cost may be similar at the bookstores.

4. i>Clicker2

   You will need the second-generation device to earn credit as we utilize the numeric input feature that is not possible with the previous generation clicker.

5. Safety Goggles (not glasses). Must have “ANSI” or “AS/NZS” on lenses) are REQUIRED AT ALL TIMES IN THE LAB! Long Pants, Shoes, & Shirts with Sleeves Required. NO Shorts, Skirts, Tights, Sandals, Open-Toed Shoes or Bare midriffs.


Suggested (not required):
COURSE OVERVIEW
Chemistry is a very diverse field and, at its most basic level, aims to understand the physical world that surrounds us. Chemistry is a science. Science uses systematic processes to observe, describe, explain, and predict physical and chemical phenomenon. But first, you must learn how to speak the language of chemistry. This course will provide you with the tools you need to speak chemistry while providing you with a broad overview of relevant areas of interest in this beloved discipline. Ties to biological, medical, environmental, and societal applications will be embedded throughout your course. How much depends on you. Is there a topic you wish to pursue? Let’s pursue that knowledge together. One of the many beautiful features of chemistry is that its magnificent concepts are relevant to you personally, regardless of your major or eventual career path. As a member of this society, you are affected by historical theoretical developments just as much as modern advancements. My commitment to you is that our journey into the sub-microscopic world of electrons, atoms, and molecules influences you in a positive way and somehow shapes your overall perspective on your world. Welcome to your general chemistry course experience.

HOW DOES THIS COURSE FIT IN THE BIGGER PICTURE OF YOUR EDUCATION?
This introductory course was designed in consideration of the fundamental chemical principles that you will need to be successful in your scientific career. I have made an effort to include biological relevance to core chemical principles. Goals that are most tied to the specific course objectives are highlighted below.

UD General Education Goals for Success
1. Attain effective skills in (a) oral and (b) written communication, (c) quantitative reasoning, and (d) the resourceful use of information technology.
2. Learn to think critically to solve problems.
3. Be able to work and learn both independently and collaboratively.
4. Engage questions of ethics and recognize responsibilities to self, community, and society at large.
5. Understand the diverse ways of thinking that underlie the search for knowledge in the arts, humanities, sciences and social sciences.
6. Develop the intellectual curiosity, confidence, and engagement that will lead to lifelong learning.
7. Develop the ability to integrate academic knowledge with experiences that extend beyond the boundaries of the classroom.
8. Expand understanding and appreciation of human creativity and diverse forms of aesthetic and intellectual expression.
9. Understand the foundations of United States society including the significance of its cultural diversity.
10. Develop an international perspective in order to live and work effectively in an increasingly global society.

EXAMPLE COURSE LEARNING OUTCOMES
Upon successful completion of this course, you should be able to apply knowledge gained from all readings, assignments, in-class exercises, workshop, studio and laboratory activities to big picture concepts as exemplified below.
1. Describe key discoveries that led to establishment and acceptance of the modern Atomic Theory
2. Apply appropriate measures of uncertainty to establish limits of an experimental system
3. Predict reactivity of any element with the help of the periodic table
4. Communicate your scientific work to your peers (become proficient in the language of chemistry)
5. Visualize chemical interactions and identify key structure-function relationships
6. Follow a carbon atom through the carbon cycle (conservation of mass)
7. Dissect chemical, thermal, and kinetic energy released during physical and chemical processes (conservation of energy)

**COURSE MANAGEMENT & CLASS TIME**

Please note that this course has UD Capture enabled, which means that the audio and the screen presentations for every class period will be recorded. No one will be on camera. In addition, I have enabled LiveMark to help students with taking notes along with the recorded lectures.

Course and lab materials will be managed using Canvas (one site for lecture, one for lab). Through Canvas, you can read announcements, access the links to UD Capture and LiveMark, download lecture handouts, access links to campus resources, read and post onto the discussion forums, and review your grades. Furthermore, your Syllabus Quiz will be available only on Canvas. It is your responsibility to check this website often so you are up-to-date on readings, assignments, and other course- and lab-related material.

It is my goal to create an interactive atmosphere during this class so I do expect that students be actively engaged in the class. During class, I will clarify and elaborate on the readings, introduce material not covered in the readings, support class discussions, and incorporate activities and demonstrations. I strongly recommend that you read the material for the week’s classes prior to attending class. **Be sure to check the Resources page on Canvas for supplemental course materials.** During class, please feel free to raise your hand and let me know if you need me to repeat something or slow down!

**SOME EXPECTATIONS ABOUT CLASSROOM BEHAVIOR**

Please be courteous to both your fellow classmates and to me. This section is here in the syllabus to make it clear what I expect in terms of behavior during class time. Students violating these expectations are engaging in disrespectful behavior and may be asked to leave. Disruptive behavior serves only to impede both your own learning and the learning of your classmates.

- Avoid coming in late or leaving early. Pack up your belongings only after the class time has ended.
- Refrain from talking during class time when others are speaking. In a lecture hall filled with 300 students, even whispering is loud and very distracting.
- Be mindful of your use of technology in the class. There is evidence that multitasking on a laptop lowers students’ grades by 10% and lowers the grades of peers that see a multitasking screen by 17% (Sana, Weston, & Cepeda, 2013). That is more than one full grade! You may use technology in the classroom to look up material relevant to the class material, post questions on the discussion forums, use LiveMark, or to take notes. Do NOT text, go online shopping, use Pinterest, or anything else that is not relevant to class.
- Turn off or silence your cell phones or other electronic devices before entering the classroom. There is evidence that the interruption of a ringing cell phone negatively affects note-taking efficacy and impairs test performance on the material that was interrupted (End, Worthman, Mathews, & Wetterau, 2010).
DOING WELL IN THIS COURSE

There are a few things that you can do to improve your learning experience in this course:

- **Regular attendance**
  - Sometimes, things happen so if you happen to miss a class period, you have a few options.
    1. Make friends with your classmates! If you ever have to miss a class because there’s an emergency, you can nicely ask a new friend for a copy of his or her notes.
    2. Listen to the class period that you missed on UD Capture. The link to access UD Capture and LiveMark can be found on Canvas under “Resources”.

- **Reading the chapter associated with the class period before attending class**
  - Additionally, the publisher of our textbook has provided resources that are available through Canvas. Please see the interactive tools available there to get access to visual summaries, flashcards, chemtours, and additional questions and more.

- **Active engagement during class time**
  - Print out or download the lecture notes before class so that you can take notes on my discussion of the topic and participate in class discussions/activities.
  - Use LiveMark to help you indicate unclear points during lecture that need re-reviewing.
  - Sit in the front of the lecture hall so you can avoid feeling disconnected or to avoid the distraction of other students’ computer screens.
  - Push yourself to raise your hand to ask a question or contribute to discussion questions.

- **Participate in the discussion forums and twitter (#UDChem)**
  - Ask questions about course material sooner rather than later and have your peers or me help you! Your TAs and I will usually check this Discussion Board daily.
  - Share how you can apply chemistry to what you’re learning in other classes, what you are reading in the news, and your everyday life. Share on twitter!
  - Are we not covering a specific chemistry topic in which you are interested? Post a thought-provoking comment or question!

- **Visit your Preceptor, TA or me during office hours (come introduce yourself to us!)**
  - You do not need to ask permission to come to our office hours! Just come on by during the scheduled day and time!
  - This is a very large course and we enjoy getting to know our students individually during these office hours! You are always welcome to discuss course material, broader questions about educational and career paths, or tips on studying. If you cannot make office hours and would like to schedule an appointment, please politely send an email request with your availability (e.g., Monday before class, Thursday after 11am).

- **Watch this series of short videos on “How to Get the Most Out of Studying”**
  - These videos address (with psychological research!!) the common issues that some students have reported as challenges to their success in this course – (1) **misconceptions about learning**, (2) **levels of processing information**, (3) **developing effective studying strategies**, (4) **practicing effective studying**, and (5) **what steps to take when students earn a bad exam grade.**
COURSE COMMUNICATION & EMAILS

I will post announcements, course material, and other important information on Canvas so it is important that students regularly check their UDel email and the course website regularly.

Email is the best way to reach me. Please know that responding to emails promptly is a priority for me. However, in general, please allow approximately 48 hours for responses to your emails. If you do not receive a reply within these time frames, please feel free to send me another email as a reminder.

Because of convenience, email communication is generally very common between instructors and students. Thus, it is important to recognize the importance of email etiquette:

- Include a proper greeting.
  - A simple hello or a “Hi Professor Fajardo” is great! Learning to communicate professionally and with tact takes practice.

- Let me know which course section you are taking with me.
  - I teach multiple sections of this course so please include the class name and section number either in the subject line or within the body of the email. This will allow me to provide tailored responses to content specifically discussed during your section.

- Tell me who you are.
  - Consider the email like a traditional letter that you would write by hand and include a “signature” with your first and last name. I like to get to know my students and reply to your emails with proper greetings as well!

- Check the syllabus before you email me a question.
  - I try to be very thorough (as you can tell from the page count!!) when I create the syllabus and it will often answer most general questions about the course. The syllabus is detailed.

- Post onto the Canvas Discussion Forums.
  - I encourage students post their questions to the forums rather than sending me an email. In some cases, your fellow classmates may be able to help you out. In other cases, your classmates may have a similar question and everyone can benefit from a response to this question. Either your TA or I will regularly check this Discussion Board.

- Be professional.
  - Use complete words and sentences and check for errors in your email. Please do not use texting abbreviations or send a series of emails as you think up questions. “Hey, when r u postin the study guide” is not appropriate. When you are composing an email, ask yourself if the tone professional and respectful. Is this a message you would send to your boss at a job?

- Multiple questions?
  - If you have several questions, or require a very detailed answer, it may be difficult to respond in an email, so please visit office hours or schedule an appointment.

WE ARE ON TWITTER!

Yes, you read correctly -- WE have a Twitter account! If you would like to learn more about chemistry in the news, the UD Department of Chemistry, and about events and opportunities happening on campus and around the region, you might want to consider “following” @iChemUD. If you want to contribute, feel free to post articles or events that you think add to our understanding of chemistry in the context of the world around us by posting to #UDChem! To decide if a tweet is appropriate, ask yourself if you think others in the class could benefit by your tweet. If not, maybe you should post to another hashtag that isn’t linked to our course.
GRADING

You will have the opportunity to earn up to a total of 1000 points across the entire course (not counting the extra credit). I go by a straightforward point system. To calculate your grade percentage, simply sum your total earned points and divide by the total possible points. Please note that because of extra credit opportunities, your final course grade will NOT be rounded up. The percentage you earn needs to cross the bottom threshold of each of the letter grades in the grading scale below (e.g., a 89.98% earns you an A-).

<table>
<thead>
<tr>
<th>Course Component</th>
<th>Weighted Point Value</th>
<th>Percentage of Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syllabus Quiz</td>
<td>5 points</td>
<td>0.50 %</td>
</tr>
<tr>
<td>i&gt;Clicker2 Class Participation</td>
<td>50 points</td>
<td>5.00 %</td>
</tr>
<tr>
<td>Sapling Assignments</td>
<td>60 points</td>
<td>6.00 %</td>
</tr>
<tr>
<td>Sapling Assignment 0</td>
<td>15 points</td>
<td>1.50 %</td>
</tr>
<tr>
<td>Sapling Quizzes</td>
<td>40 points</td>
<td>4.00 %</td>
</tr>
<tr>
<td>Workshop</td>
<td>60 points</td>
<td>6.00 %</td>
</tr>
<tr>
<td>Lab</td>
<td>250 points</td>
<td>25.00 %</td>
</tr>
<tr>
<td>Exam #1</td>
<td>130 points</td>
<td>13.00 %</td>
</tr>
<tr>
<td>Exam #2</td>
<td>130 points</td>
<td>13.00 %</td>
</tr>
<tr>
<td>Exam #3</td>
<td>130 points</td>
<td>13.00 %</td>
</tr>
<tr>
<td>Exam #4 (Final Exam)</td>
<td>130 points</td>
<td>13.00 %</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>A- = 88.00-89.99%</th>
<th>A = 90.00-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>B- = 75.00-77.99%</td>
<td>B = 78.00-83.99%</td>
</tr>
<tr>
<td>C- = 59.00-62.99%</td>
<td>C = 63.00-71.99%</td>
</tr>
<tr>
<td>D- = 50.00-52.99%</td>
<td>D = 53.00-55.99%</td>
</tr>
<tr>
<td>F &lt; 50.00%</td>
<td></td>
</tr>
</tbody>
</table>

THE FOLLOWING PAGES WILL PROVIDE MORE DETAILS ABOUT EACH OF THE COURSE REQUIREMENTS.

• SYLLABUS QUIZ

To succeed in any course, especially those with reputations for being challenging, it is critical that you are knowledgeable of the course expectations. To encourage you to increase your awareness of course expectations, you must complete a quiz on the information held within this syllabus. The quiz will be available online through Canvas. There will be no make-up opportunities or extensions. Because this is your course, it is solely your responsibility to complete and submit the quiz by the deadline. You can confirm that your assignment was submitted to Canvas by checking your score in the Gradebook immediately after submission.

• i>CLICKER2 CLASS PARTICIPATION

You must register your iClicker2 through Canvas immediately. To register your device, go to the lecture Canvas page for this course, click on the iClicker tab on the left side of the page, and enter the ID number
from the back of your clicker in the registration box. After submitting, scroll down and make sure that you see your number has been registered on that same page. Bring your iClicker2 to EVERY class period.

These in-class iClicker questions are meant to support and enhance your understanding of the course material and a good way for both you and me to gauge your level of understanding.

You must answer at least 75% of the questions presented on any given day in order to receive credit for participation (worth 1 point per day). In terms of credit, it will not matter if you get the questions incorrect – points are awarded just for participation. Students occasionally forget their clicker or miss class for a variety of reasons (excused or unexcused), you will only need to achieve 90% of the total points available to earn full credit on this component of the course. Hence, those few days of forgetfulness or illness will not impact the grade you can earn. There will be no chances to make-up missed iClicker questions. NO – you may not hand in a scrap piece of paper with your responses if you forget your clicker!

*It is important that you participate with only your own iClicker. If you participate in iClicker activities for someone else, this behavior is unacceptable and is considered academic dishonesty.*

• **Sapling Online Assignments**

We have found that in order to master concepts in chemistry, you need to put in a substantial amount of time reading as well as **working through practice problems** (critical to learning). To accomplish this goal, we have devised specific homework problem sets on Sapling that will provide you an opportunity to work through the problem solving process. Sapling assignments have been set up as a form of practice; regardless of the number of attempts you need to complete a problem, you earn credit simply by **completing** the problem. You may find hints or tutorials helpful to complete a problem; feel free to use these resources as you wish. However, if you use the “Give Up” option, you will be able to see how to complete the problem, but will no longer be able to earn credit for that problem. These assignments will factor in to class discussions to introduce or elaborate on topics covered in this course. Even though this is a large class, you will be expected to participate in class discussions about these materials. It is never fun if we all sit in awkward silence! There will be no chances to make-up Sapling assignments. You must complete the homework by the due date or it will be marked down for every hour it is late (10% per hour).

• **Sapling Online Assignments #0**

The students in this course are coming from all different backgrounds. To make sure that you and your peers get the most out of this course, we have designed an “Assignment 0” consisting of content that you are expected to be comfortable with by the first day of this class. Think about this as a way to make sure you know what you need to brush up on before arriving at UD to start your college career in science. Some of the topics are math based, and some are chemistry based. If you are comfortable with answering the questions in this assignment with one or two attempts, then you may not need much review before you arrive. However, if you find yourself having a difficult time answering the set of questions, you must proactively develop the incoming skills and knowledge that you are assumed to have.

• **Sapling Online Quizzes**

Because your homework assignments are designed to give you ample time and opportunity to master the material without a point penalty for your attempts, you will have an assessment **the day after** each assignment is due. This online assessment will be available through Sapling and will reflect the problems that were on your assignment, but will be graded on the first attempt. The quiz will always occur on the
day after the assignment is due and will be available from 9:00 AM – 11:59 PM. You can start the quiz anytime it is open but beware that you will have a specified and limited amount of time to complete the quiz (stated at the start of the quiz, typically anywhere from 15 to 30 minutes depending on the material). It is your responsibility to make sure that you have a stable internet connection (ideally hardwire through Ethernet cable) to minimize risk of disconnecting and losing time on the quiz. There will be no chances to make-up these quizzes.

• **Workshop**

Chemistry is a science of explaining observations in experimental data, which we use to predict future events. Hence, many of the concepts in chemistry are most easily understood by analyzing experimental data and identifying trends. You must attend a weekly workshop. This is a **1.5-hour highly active and engaging session** led by an undergraduate peer facilitator. During Workshop, you will often be learning concepts before they are introduced in class. Other times, you may be refining your understanding of current course topics. You’ll receive credit for attending Workshop and being on task during the hour and a half. Your workshop will be held every Thursday evening, 5:00 PM – 6:30 PM, except for exam weeks, at a location TBD. Alternate time workshops will be scheduled during a mandatory “Workshop 0”, which will be held August 29 at 6:30 PM (Section 040) and 7:00 PM (Section 070) in a location TBD. Workshop is worth 6% of your overall course grade.

• **Lab**

1. The laboratory component makes up 25% of your overall CHEM 103 course grade and is therefore an integral part of CHEM103. Failure to pass lab will result in your failure of the course.
2. Attendance *and* safe participation are both REQUIRED. **Safety Goggles:** “ANSI” or “AS/NZS”.
3. Lab will meet once per week starting the week of Monday, September 8, 2014.
4. Report to lab promptly each week in order to hear lab instruction presentation by your TA. Please arrive promptly. For safety reasons, your TA may restrict you from entering lab if you are late.
5. You must pass lab in order to pass the course. Two or more unexcused labs will result in an incomplete grade for the course. A list of EXCUSED absences are described below.

**Laboratory Structure**

**Due as you ENTER lab**

1. A Written Pre-Laboratory Assignment
2. An Illustrated Laboratory Procedure
3. A completed materials safety data sheet (MSDS) analysis for two chemicals that will be used in that week’s lab. MSDS Link: [http://ull.chemistry.uakron.edu/erd/](http://ull.chemistry.uakron.edu/erd/)
4. Lab safety training will occur during your first Lab #1 (Week of 9/8/2014). You must wear appropriate lab attire for admittance and participation in laboratory. If you are asked to leave lab due to inappropriate dress, your absence will be considered unexcused.

**Start of Lab**

At the start of lab, your TA will administer a lab quiz and then provide you with an introduction to the week’s lab. The quiz may require a clicker. Please consult with your TA for section-dependent quiz requirements. The introduction will include a discussion on proper laboratory set-up, lab safety, and lab expectations for the week. If you are late for lab and not permitted to enter, you will NOT be allowed to make-up the lab at an alternate time, and the missed lab will be treated as UNEXCUSED (a “zero”).

**Due as you LEAVE lab**

1. Laboratory report
2. Post-laboratory report.
Make-up Labs
1) Labs and make-up labs can ONLY be done during the week scheduled and only WITH a lab pass. You must plan ahead!!
2) See Professor Fajardo (BRL 169 & ISEL 402G) or Ms. Linda Staib (BRL 102) for a lab pass.

Missed labs will fall into one of two categories: excused or unexcused.
1) UNEXCUSED LAB ABSENCE
   a. A score of zero (0) will be recorded for an UNEXCUSED LAB, lowering your lab score.
   b. Two or more UNEXCUSED absences will result in an incomplete grade for CHEM103.
2) EXCUSED LAB ABSENCE
   a. Excused absences must meet the criteria established in your academic catalog (see below).
   b. Each missed lab that is EXCUSED will NOT affect your overall lab score.
3) An excessive number of missed labs (including BOTH excused AND unexcused) will result in an incomplete grade for CHEM103.

• EXAMS

There will be a total of 4 exams (the 4th exam is given during finals week). The first three exams are semi-cumulative and the fourth is fully cumulative. Exams will be held from 5:00 PM - 7:00 PM in a location TBD on 10/02/2014, 10/23/2014, and 11/20/2014. Because of overarching theories and concepts that are applied to the different topics as we continue through the semester, there will be questions that incorporate previously learned material. It is important to note that not all of the material covered in class time will be in the textbook and we will not cover everything in the textbook during class time. Any of the information from the assigned readings and end-of-chapter problems, class time, lab, and workshop may be included in the exams. On exam day:

1) Please bring the minimal number of personal belongings possible, including your school ID, a #2 pencil, a handwritten 3x5 notecard, and a calculator.
2) Anything else that you bring with you must go to the front of the exam room prior to the start of the exam. This includes backpacks, coats or other clothing not on your person, cell phones, and all other electronic devices, books, notebooks, scratch paper.
3) Possessing an item during the exam OTHER THAN your ID, pencil and calculator constitutes a breach of academic ethics and will result in a zero score for the exam in question. This zero will be equivalent to an unexcused missed exam. A second violation will result in your failure of the course.

"Never memorize something that you can look up." – Albert Einstein

The questions on your exams will test for more than if you can memorize an equation. To be successful, you’ll not only need to know how to use equations, and to be able to work with relationships between variables to predict what will happen. Hence, you are allowed to bring a 3” x 5” notecard to each exam with any hand written notes on it that you wish. You may use both sides of the notecard. You must put your name and ID# legibly on the notecard, and turn it in at the end of the exam.

• Assigned End-of-Chapter Problems

Although assigned end-of-chapter problems will not be graded, you are responsible for completing all problems. Answers to boldface questions are in the back of the book. The solutions guide is available for checkout in the Chemistry Library, BRL 202. Fully worked out solutions to all end-of-chapter problems are in the Solutions Manual, which is available for checkout in two-hour blocks. More information on the Chemistry Library is here: http://www2.lib.udel.edu/branches/chem.htm.
MISSED EXAM POLICY:
Acceptable reasons for missing an exam include serious illness, family emergencies, or military duty. Athletic participation and religious holidays not listed in University calendars are also acceptable reasons but note that for these reasons to be valid, advance written notification needs to be provided to me by the second week of the semester. If you do miss an exam for an acceptable reason, you will need to provide documentation (e.g., doctor’s note) and contact me immediately (within a day). If you have an acceptable reason, provide appropriate documentation, and notified me immediately, you may replace your missed exam score with the final exam score.

EXAM POLICIES:
FINAL EXAM REPLACEMENT POLICY:
If your final exam score is higher than the score on either your 1st, 2nd, or 3rd exams, the lowest of these 3 scores may be replaced by your final exam score. The final exam score will not be replaced in any situation. Please refer to the excused and unexcused absence policies described below for more information on missed exams.

EXCUSED POLICY:
Acceptable reasons for missing an exam include serious illness, family emergencies, or military duty. Athletic participation and religious holidays not listed in University calendars are also acceptable reasons but note that for these reasons to be valid, advance written notification needs to be provided to me by the second week of the semester. If you do miss an exam for an acceptable reason, you will need to provide documentation (e.g., doctor’s note) and contact me immediately (within a day or two). If you have an acceptable reason, provide appropriate documentation, and notified me immediately, you may replace your missed exam score with the final exam score.

UNEXCUSED POLICY:
If you do not provide an acceptable reason for missing an exam, provide appropriate documentation, and notified me immediately, you may only replace one missed exam score with the final exam score.

LANGUAGE DICTIONARY USE DURING EXAMS:
The University's policy states that a language barrier does not constitute a "special needs/learning disability" case, so students in this situation are not referred to the DSS Office. The CHEM103 policy for language dictionary use on exams will be to approve INSPECTED PAPER language dictionaries. ELECTRONIC language dictionaries will NOT be allowed at any time.

SPECIAL ACCOMMODATIONS:
If you have a documented disability that may need certain accommodations, please contact the Office of Disabilities Support Services (DSS) as soon as possible. I will do what I can to accommodate needs but certain requested accommodations (e.g., extended time exams at the DSS Center) require registration with the DSS. The DSS office is located at 119 Alison Hall, 240 Academy Street and their phone number is 302-831-4643.

* EXTRA CREDIT
You may have the opportunity to earn extra credit points throughout the semester. These points may come from hand out in-class activities or writing assignments, mid-semester course feedback and evaluation, bonus questions on exams, or other similar tasks. I may not always tell you when an extra credit opportunity is coming up, so I would encourage you to regularly attend class and make sure you complete the assigned readings. Extra credit opportunities may present themselves in any of the course components. There will be no chances to make-up a missed extra credit opportunity.
Grading Disputes & Minimum Req. for Passing CHEM 103:
On occasion, a student may believe that they deserve a different grade on an assignment than they actually received or may believe that there is more than one right answer to a multiple-choice question. If you believe that a review of grades of warranted, you must meet with me within one week of receiving the grade/score. If you dispute a lab grade, you must meet with your TA to address the specific issue. After one week, your grade/score cannot be argued and is permanent. Be aware that if you request a grade correction, your entire exam is subject to re-grading. This may result in a lower overall grade.

Minimum Requirements for Passing CHEM103 are:
1. Successful completion of the laboratory section of CHEM103
   a. See lab syllabus for details on requirements
2. Completion of the Final Exam
3. Achieving a passing grade in the entire course
   *If any of these requirements are not met by the end of the semester, you will earn an “INCOMPLETE” grade for the course.*

- An “INCOMPLETE” grade in CHEM103 F14 converts to a grade of “F” on February 23rd, 2015.
- If you are considering changing to a Listener status or withdrawing from this class, you must make an appointment with your chemistry and biology professor immediately. These two courses are linked, and your decision to change status in either course has broad implications.

A Note on Academic Honesty:
All students at the University of Delaware are expected to be honest in their academic studies. You are presumably pursuing higher education in order to actually learn course content and demonstrate to both professors and yourself what you can do intellectually. By committing acts such as plagiarizing the words or ideas of another, cheating on an exam or assignment, or allowing or helping another student to do these things, you are cheapening your own educational experience.

You should familiarize yourself with the Code of Conduct at the University of Delaware, which outlines the standards of student behavior, including guidelines regarding academic honesty: [http://www.udel.edu/stuguide/13-14/code.html](http://www.udel.edu/stuguide/13-14/code.html). Because this expectation to read the Code of Conduct is explicitly written in this syllabus and stated verbally during class time, pleading ignorance will not be a valid excuse. If you are caught committing an act of academic dishonesty, the incident will be reported to the Office of Student Conduct.

Other Resources:
1. Tutors (Private and Group) - For more info, see Mrs. Staib in BRL102 (831-2465)
2. Drop-in tutoring is free and open to all UD students in ISEL 314. [http://www.cas.udel.edu/isll/learning-community-center/Pages/default.aspx](http://www.cas.udel.edu/isll/learning-community-center/Pages/default.aspx)
3. Academic Enrichment Center: [http://ae.udel.edu/tutoring.html](http://ae.udel.edu/tutoring.html) offers individual, drop-in, and group tutoring to all students. Drop-in and group tutoring is free of cost to all students.
5. Information on excused absences and procedures can be received from the University’s Undergraduate and Graduate Catalog [http://academiccatalog.udel.edu/Pub_ShowCatalogPage.aspx?CATKEY=CATKEY_471&ACYE_AR=2013-2014&DSPL=Published](http://academiccatalog.udel.edu/Pub_ShowCatalogPage.aspx?CATKEY=CATKEY_471&ACYE_AR=2013-2014&DSPL=Published)
<table>
<thead>
<tr>
<th>WEEK</th>
<th>DATE</th>
<th>TOPIC</th>
<th>ACCOMPANYING READINGS TO BE COMPLETED BY CLASS TIME ON THIS DATE</th>
<th>WEEKLY END-OF-CHAPTER PROBLEMS&lt;sup&gt;b&lt;/sup&gt;</th>
<th>LABORATORY</th>
</tr>
</thead>
</table>
| 1    |      | This is a new language: Big Picture Chemistry; | Gilbert Text  
Chapter 1<sup>c</sup>, Chapter 2 | 1.1 – 1.40, 1.43, 1.45, 1.47, 1.49, 1.51, 1.61, 1.64, 1.65, 1.71, 1.75, 1.79, 1.89, 1.91, 1.93; | No Lab     |
| 2    | 9/1  | No Class: Labor Day                       | Assignment 0 (Sapling) & Syllabus Quiz (Canvas)  
DUE @ midnight | 2.1, 2.3, 2.5, 2.7, 2.9, 2.11, 2.12, 2.13, 2.17 – 2.21, 2.23, 2.27, 2.31, 2.33, 2.35, 2.43, 2.45, 2.49 – 2.52, 2.55, 2.63, 2.65, 2.67, 2.69 – 2.79, 2.83 – 2.96, 2.103, 2.105, 2.111, 2.113, 2.121 | No Lab     |
| 3    | 9/8  | Protons, electrons, and neutrons; oh my!  
Atomic theory, structure, and chemical nomenclature. | Gilbert Text  
1) Lab #1 A  
Lab Techniques<sup>d</sup>  
2) Lab #2 –  
Density (in lab) |

<sup>a</sup> This table will be updated throughout the semester.

<sup>b</sup> Assigned end-of-chapter problems will be updated as the semester progresses. These problems will not be graded.

<sup>c</sup> You are responsible for all Chapter 1 content. This chapter is considered review material and will not be covered in class. The material will appear on exams, quizzes, homework, and etc.

<sup>d</sup> Lab 1A should be completed prior to coming to lab. Lab 1A is due upon your arrival to lab during the week of September 8 – 12.
<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Textbook Chapter</th>
<th>Topics Covered</th>
<th>Lecture</th>
<th>Lab #</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>9/15</td>
<td>Two molecules walk in to a beaker...</td>
<td>Gilbert Text Chapter 4</td>
<td>4.1, 4.5, 4.7, 4.13, 4.15, 4.17, 4.19, 4.21, 4.27, 4.33, 4.41, 4.43, 4.45, 4.47, 4.57, 4.59, 4.63, 4.65, 4.67, 4.71, 4.75, 4.77, 4.79, 4.83, 4.85</td>
<td>3) Lab #3</td>
<td>Physical &amp; Chem. Properties</td>
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<tr>
<td>5</td>
<td>9/22</td>
<td>Chemical Reactions &amp; Solutions Continued</td>
<td>Gilbert Text Chapter 4</td>
<td>4.90, 4.93, 4.97, 4.99, 4.109, 4.131</td>
<td>4) Lab #6</td>
<td>Limiting Reagents</td>
</tr>
<tr>
<td>6</td>
<td>9/29</td>
<td>Electrons; Fall in line! Quantum Chemistry</td>
<td>Gilbert Text Chapter 7</td>
<td></td>
<td>5) Lab #5</td>
<td>Properties of Hydrates</td>
</tr>
<tr>
<td>10/2</td>
<td>EXAM 1</td>
<td></td>
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<tr>
<td>7</td>
<td>10/6</td>
<td>Quantum Chemistry (continued); ionic and covalent bonding models</td>
<td>Gilbert Text Chapter 7, 8</td>
<td></td>
<td>6) Lab #10</td>
<td>Spectroscopy</td>
</tr>
<tr>
<td>8</td>
<td>10/13</td>
<td>How do we represent molecules? Lewis structures &amp; bonding (continued)</td>
<td>Gilbert Text Chapter 8</td>
<td></td>
<td>8) Lab #27</td>
<td>Vitamin C Analysis w/ Computer Analysis (bring flash drive)</td>
</tr>
<tr>
<td>9</td>
<td>10/20</td>
<td>Why do we represent molecules like we do? VSEPR and Molecular Shape</td>
<td>Gilbert Text Chapter 9</td>
<td></td>
<td>9) Lab #13</td>
<td>Types of Reactions</td>
</tr>
<tr>
<td>10/23</td>
<td>EXAM 2</td>
<td></td>
<td></td>
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<tr>
<td>10</td>
<td>10/27</td>
<td>VSEPR and Molecular Shape (continued)</td>
<td>Gilbert Text Chapter 5</td>
<td></td>
<td>10) Lab #33</td>
<td>Determination of Solution Concentrations w/ Statistical</td>
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<td></td>
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<td>Data Analysis</td>
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<tr>
<td>11</td>
<td>11/3</td>
<td>What drives a physical or chemical process? <em>Heat, work, and energy: Quantifying Enthalpies.</em></td>
<td>Gilbert Text Chapter 5</td>
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<tr>
<td>11</td>
<td>11/3</td>
<td>7) Lab #11 Lewis Structures® (Due in Lab week of November 10-14)</td>
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<tr>
<td>12</td>
<td>11/10</td>
<td>Energy is required to disrupt all interactions! <em>Bond Enthalpies</em></td>
<td>Gilbert Text Chapter 5, 14</td>
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<tr>
<td>12</td>
<td>11/10</td>
<td>11) Lab #19 Equivalent Weight w/ Statistical Data Analysis</td>
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<tr>
<td>13</td>
<td>11/17</td>
<td>How fast does a chemical reaction go? <em>Chemical kinetics</em></td>
<td>Gilbert Text Chapter 14</td>
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<tr>
<td>13</td>
<td>11/17</td>
<td>12) Lab #15 Calorimetry w/ Computer Analysis</td>
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<tr>
<td>13</td>
<td>11/20</td>
<td>11/20</td>
<td>EXAM 3</td>
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<tr>
<td>14</td>
<td>11/24</td>
<td>To what extent does a reaction proceed? <em>Equilibrium</em> Thanksgiving: No Class 11/26 – 11/30</td>
<td>Gilbert Text Chapter 15/16</td>
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<tr>
<td>14</td>
<td>11/24</td>
<td>No Lab</td>
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<td>15</td>
<td>12/1</td>
<td>To what extent does a reaction proceed? <em>Equilibrium</em></td>
<td>Gilbert Text Chapter 15/16</td>
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<td>15</td>
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<td>No Lab</td>
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<td>FINAL EXAMS BEGIN ON 12/5 CLASS FINAL EXAM TBA</td>
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</table>

*Please complete the Lewis Structure Lab this week and turn in at the beginning of your regularly scheduled lab next week (November 17-21). You will not meet in lab the week of November 3 due to Election Day.*