CHEM 112-02 – General Chemistry II
College of Charleston
CRN 12524, Section 02, Tuesdays and Thursdays 9:25 – 10:40 PM  Fall 2021

Quick Reference

Course Instructor:  Dr. BettyCep Gailbreath  Office: SSMB Rm 114
Email:  gailbreathbd@cofc.edu  Phone No:  843.953.3093

Office Hours:  T: 10:45 am – 12:00 pm & Th:10:45 – 12:00 am; or by appointment. I request that you wear a mask if you want to see me in my office.

Office Hours Online:  Zoom will be used to conduct office hours if CofC is online. Emailing me when you want to Zoom will make it easier to set up times.

Course Time/Location:  TTh: 9:25 am – 10:40 am  Rm: SSMB Rm 129 (F2F)
This syllabus is subject to change by the professor at any time. All changes will be announced via OAKS.

Face to Face Course

Due to the uncertainty of COVID-19, this course structure can change. Therefore, in general, this is a face to face course. In the case that the college goes online or a class will need to be held online then class will be held via synchronous Zoom at the scheduled time. You will participate in this course by attending the scheduled meeting times when F2F.

Course Description

An introductory course in chemistry emphasizing theoretical aspects and designed primarily for students who intend to take one or more additional courses in chemistry.

Learning Outcomes

General Education Student Learning Outcomes

- Students apply physical/natural principles to analyze and solve problems.
- Students explain how science impacts society.

The General Education Learning Outcomes will be assessed in the Lab Co-requisite, Chem 112

Student Learning Outcomes

- Describe colligative properties and give specific examples.
- Explain the concept of equilibrium and apply it to chemical reactions including acid/base chemistry, precipitation reactions, and oxidation-reduction reactions.
- Define entropy and Gibbs energy. Apply these with respect to chemical reactions and evaluate how these affect the spontaneity of a chemical or physical process.
- Apply a kinetic analysis to chemical and physical processes (including rates, mechanisms, and activation energy).
- Apply the principles of thermodynamics and equilibrium to electrochemistry.
Course Structure
The course is divided into separate modules. Each new module will open in accordance with the course schedule. Within each module, there will be power points, study guides, highly recommended homework assignments, ALEKS assignments, and a quiz to assess your knowledge.

Most of the written learning material will be delivered via OAKS, your online learning management system. Within the course OAKS site you will access important learning materials such as the syllabus; course content material; submit assignments; take quizzes; complete homework; email the instructor, check your grades, etc.

Course Requirements

Proper Public Health Guidelines for F2F class
- You must wear a face mask when attending class and when you are in the building
- You may social distance (6 feet apart from the next person)
- You may sanitize your learning area (wipes will be provided)
- You must stay home if sick

Course Co/Pre-requisites

Co-requisite: CHEM 112L. Students enrolling in CHEM 112 are urged to take MATH 120. Students who earned a grade of “D” in CHEM 111 are encouraged to retake the course before taking CHEM 112. If you withdraw from either Chem 112 or Chem 112L, you will need to withdraw from both classes unless you made special arrangements with the Chemistry Department (email the departmental administrative assistant, Ms. Kendrick, at kendrickcd@cofc.edu). If you have passed the lab, you do NOT need to take the lab in order to retake the lecture. The two courses (CHEM 112 & 112L) are graded independently of each other.

Pre-requisites: CHEM 111/111 Lab

Textbook
General Chemistry: Atoms First 4th Edition Authors: Burdge, Julia and Overby, Jason

Access to OAKS
As a CofC student, you are given a CofC account with access to OAKS. This is where all of the class’s assignments, course material and tutorials are located. It is very important to that you log into this account on a daily basis and complete the assignments on time.

ALEKS
You will need to purchase an ALEKS account (CHEMISTRY:ATOMS FIRST-ALEKS 360 ACCESS) which will include an ebook. Homework assignments will be assigned throughout the semester (see course schedule for assignments and deadlines).
- The ALEKS website is https://www.aleks.com.
- The ten digit code needed to sign up for my course is NUJQE-ND6KN
- Directions on how to access and sign up for ALEKS are located at https://www.aleks.com/sign_up
- If you already have an active ALEKS account, sign in and use this class code for Chem 112.
Electronic Requirements

- Access to consistent, reliable high speed internet connection
- Computer with microphone and external speakers or a headset with a microphone. A laptop is required by the CofC. More information about the laptop requirement and other technologies to support your learning can be found at https://go.cofc.edu/laptop.
- Web camera
- Calculator - A calculator that performs exponential and logarithmic functions is required
- Printer or access to one
- Adobe Scan App: A way to take a photo of your work and quickly upload it as a PDF file to an OAKS dropbox. Use Adobe Scan to compile pictures of all your written work (in order) into a single PDF document and submit it to the appropriate location in OAKS. Before submitting, you should review the file to make sure all the pages are present in the right order and legible; re-take scans in different lighting if necessary. See the tutorial below or Tutorials/Resource page in OAKS for more information.

It is important to maintain your computer so that it is functional throughout the term. In addition, if you encounter a computer problem or have any technical problems, please contact the Student Computing Support Desk at (843)953-5457 or studentcomputingsupport@cofc.edu. Additional support and computing downloads and tutorials can be located at blogs.cofc.edu. Please be sure to promptly resolve problems. **Computer failure/unavailability does not constitute an excuse for not completing or submitting work by the due date.**

McGraw-Hill Website
This website at http://www.mcgrawhillconnect.com/chemistry contains a companion website for the textbook we are using in this course.

Community and Communication Expectations

Communication with the Professor
The best way to communicate with me will be through email. **Email address: gailbreathbd@cofc.edu**
All email correspondence will be sent through the CofC official system. My response time will be within 24 hours during the weekdays; however, will vary on weekends and holidays – within 36 to 48 hours.

When corresponding with me:
- Include Chem 112 in the subject line
- Include a respectful greeting (for example, Hi or Dear Dr. Gailbreath)
- Fully sign your name
- Proofread your email
- If you are sending a picture of your work, make sure it is readable

To save you and me time, before you email me, make sure you have consulted the class schedule or syllabus, checked your emails, OAKS announcements, or have asked other classmates.

Communication with you
I will communicate to you through email, announcements (in class and on Course Content Page), and Zoom meetings. I highly encourage you to subscribe in OAKS to receive these update notifications. See Tutorials/Resources under Content page for instructions in OAKS or below under tutorials in Additional Resources.
Classroom Etiquette (F2F)

A couple of simple rules need to be followed for our class to proceed in a safe and professional manner:
1. **Arrive on time.** If for some reason, you are late, please enter quietly. Do not walk in front of my area but walk around to the back.
2. **No cell phone use.** Only cell phone use if I ask you to use it.
3. **No side conversations.** It is very distracting to have conversations going on when I am talking.
4. **Treat everyone with respect.**
5. **Ask questions.**

Attendance Policy

I expect all students to be on time and attend every class meeting whether we are F2F (unless you are sick) or on Zoom. In the past, my students have reported meeting whether in class or on Zoom helped them keep up with the class and helped them have a better understanding of the material because they could ask questions and participate in real time. Note that missing 10% or more of the scheduled classes is excessive whether it is excused or unexcused. This can affect your grade. If you must be absent for a good reason (illness, emergency, etc.), please discuss the absence with me at your earliest opportunity or e-mail me. Students are responsible for all information presented in class whether they are present or not. Students should obtain notes from a classmate and read the associated material in the text BEFORE they meet with me to ask questions about material missed. Missing class does not entitle you to make up or be excused from any work, assignment or test. If you are a student-athlete or away from class due to college-related business, an accommodation will be made as long as you make arrangements **BEFORE** your absence and have the necessary documents to show the reason.

Recording of Classes (via ZOOM) and Zoom use if CofC goes online

If the school goes online, we will meet on Zoom. Zoom class sessions will be recorded via both voice and video recording. By attending and remaining in this class, the student consents to being recorded. Recorded class sessions are for instructional use only and may not be shared with anyone who is not enrolled in the class. Make sure you are signed into your licensed CofC account when you join the class Zoom meetings – use your first and last name as your display name and turn your camera on.

Student Responsibility

- **It is essential that you stay on top of the course assignments.** I will post due dates and reminders, but it is your responsibility to keep current in your studies. You are responsible for all material covered or assigned in class or assigned via OAKS. You should **check OAKS at least once a day** for any updates.

- **Depending on your level of competence, you are expected to spend as much time as needed to understand this material by** viewing videos, understanding power point material, completing highly recommended homework problems, ALEKS homework, taking quizzes and preparing for exams. All this will be found in the individual Modules under Content on your Course page in OAKS. The problems are representative of what you need to know for the quizzes and exams. The instructor is here to explain the material and help you to the best of her time and ability. However, **the burden of learning is upon you, the student, which includes making use of my office hours (either in person or on Zoom), SI sessions, Student Learning Center, and tutors.**
• **Practice Makes Perfect!** It cannot be over emphasized that homework is the “heart” of this course. The key to success in this class is working through chemistry problems again and again. You cannot effectively learn the subject matter without doing the homework. *I suggest you keep an organized notebook for solving problems.* Problem-solving should be a continuous, almost daily exercise. You must practice solving chemistry problems; which in theory should help you immensely in preparing for the quizzes and exams. Seeing problems reviewed in class or on video is not the same as working them yourself. Effective studying should be challenging and uncomfortable; if it is easy, most likely it is ineffective! You should practice working problems regularly; leaving all of your studying until the last minute is not likely to result in a grade you want.

**Honor Code and Academic Integrity**

**Bottom Line:** *You need to understand this chemistry material in order to proceed to Organic Chemistry with confidence; therefore, trying to cheat your way through this class will only prolong your suffering when you severely struggle with the later chemistry classes and you will be very frustrated when you realize how much time you wasted when you have to change majors because you could not pass these classes and/or your science grade point average drops.*

“Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when suspected, 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 misunderstanding and confusion will be handled by the instructor. The instructor designs an intervention or assigns a grade reduction to help prevent the student from repeating the error. The response is recorded on a form and signed both by the instructor and the student. It is forwarded to the Office of 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 XXF in the course, indicating failure of the course due to academic dishonesty. This status indicator will appear on the student’s transcript for two years after which the student may petition for the XX to be expunged. The F is permanent.” Students can find the complete Honor Code and all related processes in the Student Handbook at: [http://deanofstudents.cofc.edu/honor-system/studenthandbook/](http://deanofstudents.cofc.edu/honor-system/studenthandbook/)

**SNAP - Students Needing Access Parity**

Any student eligible for and needing accommodations because of a documented disability is requested to communicate with me in person, by email or Zoom, during the first two weeks of class or as soon as the student has been approved for services so that reasonable accommodations can be arranged. You will need to send me your letter from the SNAP documenting the approved accommodations. Extended time on tests will only be allowed if arrangements are made in advance. If you have a disability and do not have a letter, please contact the Center for Disability Services / SNAP office located on the first floor of the Lightsey Center, Suite 104. [http://disabilityservices.cofc.edu/](http://disabilityservices.cofc.edu/)

**Center for Student Learning (highly recommend)**

The Center for Student Learning’s (CSL) academic support services provide assistance in study strategies, speaking & writing skills, and course content. Services include tutoring, Supplemental Instruction, study skills appointments, and workshops. The services are available to you at no additional cost. For more information regarding these services please visit the CSL website at [http://csl.cofc.edu](http://csl.cofc.edu) or call (843) 953-5635.

**Inclement Weather/College Closure**
If the College of Charleston closes and members of the community are evacuated due to inclement weather or for other reason (COVID-19 for example), students are responsible for taking course materials with them in order to continue with course assignments consistent with instructions provided by faculty. In cases of extended periods of institution-wide closure where students have relocated, instructors may articulate a plan that allows for supplemental academic engagement despite these circumstances.

**Evaluation of Student Performance and Grade Policy**

<table>
<thead>
<tr>
<th>Student Work</th>
<th>Grade Percentage</th>
<th>Description and Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module Quizzes</td>
<td>15%</td>
<td>To help you keep up and access your knowledge of the material properly, a quiz will be given in each module and will be <em>due on certain scheduled Tuesdays (see schedule)</em>. Quizzes can be accessed in the modules. Quizzes may consist of a variety of types of questions including but not limited to true/false, matching, multiple choice, fill in the blank, and short answer. <strong>It will be a timed quiz and you will have unlimited attempts to complete the quiz by the due date (see schedule for due dates).</strong> Quizzes will be generated from a large pool of questions; therefore, no two quizzes will be the same. <strong>Late quizzes will not be accepted.</strong></td>
</tr>
<tr>
<td>ALEKS</td>
<td>15%</td>
<td>ALEKS is on-line tutorial homework that will help you understand the basic chemistry material and to help you retain this information. <em>Grade breakdown is 30% is completion (on time) and 70% is learned topics.</em> Therefore, to get 100% on the completion, you need to finish the assignment by the due date; however, you have all semester to finish the learned topics. <strong>ALEKS assignments will be due on Sundays and Wednesdays.</strong></td>
</tr>
<tr>
<td>Exams</td>
<td>56%</td>
<td>There will be 4 scheduled timed exams during the semester (see course schedule for dates). Each exam will cover a certain number of chapters plus a few problems from previous exams. <strong>The four exams will be administered in class</strong> either on paper or using a computer - OAKS exam. They will be a timed exam with one attempt. Deadlines will not be extended. <strong>You may not use any resources or work with other students or computer aid when completing your exams. The lowest exam grade will be replaced with the final exam grade if it is higher. No remote exams will be allowed.</strong></td>
</tr>
<tr>
<td>Final Exam</td>
<td>14%</td>
<td>A comprehensive, timed (one attempt), multiple choice final exam will be given during the schedule exam period for this class in class. (See important dates section). Deadlines will not be extended. <strong>You may not use any resources or work with other students or computer aid when completing your exams.</strong></td>
</tr>
</tbody>
</table>
“Make-Up” Policy and Absentee Policy

I know life happens that is why I have the policy - *The lowest exam grade will be replaced with the final exam grade if it is higher* – so if you miss an exam for any reason (which results in a zero), your final exam grade will take its place. Any more missed exams will result in a zero. I will need to be notified as soon as possible if you miss an exam. Extended absences for any reason cannot be accommodated for this course. If you have missed more than three modules worth of material, I highly suggest a withdrawal (W) from the class before the deadline.

**Extra credit:** One point will be added to your final overall grade if you have attended 7 different SI sessions. One per week will count. No other extra credit is available.

**3 Tokens:** You are given 3 tokens. These tokens can only be used to extend the due date of an ALEKS assignment or a Module Quiz. For the ALEKS assignment, a token can only be used if the next ALEKS assignment has not been due. A token for a Module Quiz can be used at any time until the closure date at the end of the semester. Only 48 hours will be the extended time for a quiz. Be careful using these 3 tokens because once they are used, no more are given.

**Reminder:** There are no dropped grades in this class.

### Assignment of Grades

<table>
<thead>
<tr>
<th>Grade</th>
<th>Minimum Grade</th>
<th>Maximum Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93.0 – 100.0</td>
<td></td>
</tr>
<tr>
<td>A-</td>
<td>90.0 – 92.9</td>
<td></td>
</tr>
<tr>
<td>B+</td>
<td>87.0 – 89.9</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>83.0 – 86.9</td>
<td></td>
</tr>
<tr>
<td>B-</td>
<td>80.0 – 82.9</td>
<td></td>
</tr>
<tr>
<td>C+</td>
<td>77.0 – 79.9</td>
<td></td>
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<tr>
<td>C</td>
<td>73.0 – 76.9</td>
<td></td>
</tr>
<tr>
<td>C-</td>
<td>70.0 – 72.9</td>
<td></td>
</tr>
<tr>
<td>D+</td>
<td>68.0 – 69.9</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>66.0 – 67.9</td>
<td></td>
</tr>
<tr>
<td>D-</td>
<td>65.0 – 65.9</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>&lt; 65</td>
<td></td>
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</tbody>
</table>

### Additional Resources

- **Student Computing Support (for questions about computing)**
  - 843-953-5457
  - studentcomputingsupport@cofc.edu
  - blogs.cofc.edu/scs

- **Helpdesk (other on campus services for IT)**
  - 843-953-3375
  - helpdesk@cofc.edu
  - it.cofc.edu/help/helpdesk


- **Zoom (for individual meetings or meetings with small groups)**
  - [https://support.zoom.us/hc/en-us/articles/206175806-Top-Questions](https://support.zoom.us/hc/en-us/articles/206175806-Top-Questions)
  - [https://support.zoom.us/hc/en-us](https://support.zoom.us/hc/en-us)
To subscribe to announcement: select down arrow next to the “Announcement/News” header on the course home page. Select Notifications then select the types and methods of notifications you wish to receive.

How to turn in your written work as a PDF file.
https://www.youtube.com/watch?v=HE3IRDblu8U&feature=emb_logo

How to take the online quizzes/exams.
https://www.youtube.com/watch?v=l-tnxjSasVQ

How to join a Zoom meeting
https://cofc.brightspace.com/d2l/le/content/239928/viewContent/2907866/View

Course Assignments/Important Dates

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
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<tbody>
<tr>
<td>Tuesday, Aug. 24th</td>
<td>First Day of Class</td>
</tr>
<tr>
<td>Monday, Aug. 30th</td>
<td>Last Day to Drop/Add Course</td>
</tr>
<tr>
<td>Thursday, Sept. 16th</td>
<td>Exam # 1</td>
</tr>
<tr>
<td>Thursday, October 7th</td>
<td>Exam # 2</td>
</tr>
<tr>
<td>Wednesday, Oct. 13th</td>
<td>Midterm Grades Available</td>
</tr>
<tr>
<td>Mon.-Tues. Oct. 18-19</td>
<td>No school</td>
</tr>
<tr>
<td>Friday, Oct. 29th</td>
<td>Last Day for students to withdraw with a grade of “W”</td>
</tr>
<tr>
<td>Thursday, Nov. 4th</td>
<td>Exam #3</td>
</tr>
<tr>
<td>Tuesday, Nov. 23th</td>
<td>Exam #4</td>
</tr>
<tr>
<td>Wed. – Fri. Nov. 24th-26th</td>
<td>Thanksgiving Break</td>
</tr>
<tr>
<td>Thursday, Dec. 2nd</td>
<td>Last Day of Class</td>
</tr>
<tr>
<td>Tuesday, Dec. 7th</td>
<td>Reading Day</td>
</tr>
<tr>
<td>Thursday, Dec. 9th</td>
<td>Final Exam, 8 – 10 am</td>
</tr>
<tr>
<td>Thursday, Dec. 16th</td>
<td>Final Grades Available</td>
</tr>
</tbody>
</table>
### Topics Covered in 112

<table>
<thead>
<tr>
<th>CHAPTERS in Textbook</th>
<th>TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 12</td>
<td>Liquids and Solids</td>
</tr>
<tr>
<td>Chapter 13</td>
<td>Physical Properties of Solutions</td>
</tr>
<tr>
<td>Chapter 14</td>
<td>Chemical Kinetics</td>
</tr>
<tr>
<td>Chapter 15</td>
<td>Entropy and Free Energy</td>
</tr>
<tr>
<td>Chapter 16</td>
<td>Chemical Equilibrium</td>
</tr>
<tr>
<td>Chapter 17</td>
<td>Acids, Bases and Salts</td>
</tr>
<tr>
<td>Chapter 18</td>
<td>Acid-Base Equilibria and Solubility Equilibria</td>
</tr>
<tr>
<td>Chapter 19</td>
<td>Electrochemistry</td>
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</tbody>
</table>

### COVID-19 Reminders:

**Respect for Others**
For the health and safety of yourself and those around you, you are **required to wear a face-covering over both your nose and mouth while inside all campus buildings** (you should do the same inside other public buildings). This mask should fit well; there should not be gaps anywhere between your face and the mask. Also remember that **students, faculty, and staff should not come to campus when they feel unwell.**

**Close Contacts and Infection**
Anyone with known contact with someone who is infected with COVID is required to follow CDC and CofC guidance, which states that unvaccinated people quarantine themselves away from others for 10-14 days after the last known contact and additionally get tested (negative test results do not eliminate the need to quarantine), while vaccinated people monitor themselves for symptoms and, if they become symptomatic, begin quarantine and testing.

Students living in the same household as someone infected with COVID will need to consult Student Health on the length of their quarantine. If a new member of the household becomes sick, they will need to restart their quarantine.

**Anyone who is sick should be tested for COVID and, upon receiving a positive test result, isolate from others for at least 10 days, regardless of vaccination status.** Consult Student Health for whether you can come out of isolation after 10 days.

The CDC's guidance has changed over the course of the pandemic as new data and new variants have emerged; check the latest info for yourself: [https://www.cdc.gov/coronavirus/2019-ncov/if-you-are-sick/quarantine.html](https://www.cdc.gov/coronavirus/2019-ncov/if-you-are-sick/quarantine.html) and find CofC's info here: [https://cofc.edu/back-on-the-bricks/](https://cofc.edu/back-on-the-bricks/) The easiest thing to do is to contact Student Health about your particular situation to get their guidance: [https://studenthealth.cofc.edu/](https://studenthealth.cofc.edu/) If you cannot attend class due to a COVID-related situation, contact your instructors for help in making up assignments.

**Resources**
CofC Student Health requests that you inform them of positive COVID testing results and any close contact with someone who is COVID-positive, so they can monitor the campus health situation and give you personalized healthcare. CofC holds regular free testing events on campus for anyone in the campus community to get tested for COVID infection. CofC also holds free vaccination events on campus for all students. Vaccination remains the best way to protect yourself, your family, and those around you.