**Course Information and Syllabus**

**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. 3 credit hours

**General Education Student Learning Outcomes**
1. Students apply physical/natural principles to analyze and solve problems.
2. Students explain how science impacts society.
   - The General Education Learning Outcomes will be assessed in the lab co-requisite for the course, CHEM 112L.

**Learning Outcomes for CHEM 112**
- 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.

**Contact Information**
- Kristin D. Krantzman
  - she/her/hers
- **E-mail:** krantzmank@cofc.edu
- **Phone:** 843 953 3378
- **Office:** SSMB Room 116

**Office Hours**
- Due to COVID-19, office hours for the entire semester will be held using Zoom.
- Tentative office hours are MWF, 10-10:50, and by appointment.

**Course Meetings**
- 112-01 MWF 9-9:50 AM JSC 333
- 112-03 MWF 11-11:50 AM JSC 333
- Synchronous and recorded

**Course Prerequisites and Co-Requisites**
Prerequisites for the course are CHEM 111/111 Lab and MATH 111 or MATH 120 or equivalent. Students who got a grade of “D” or lower in CHEM 111 and/or MATH 111 are encouraged to retake the course(s) before taking CHEM 112.

The lab course, CHEM 112L, is a co-requisite for the lecture course. *If you have passed the lab, you do NOT need to take the lab in order to retake the lecture; e-mail the department chair, Dr. Deavor (DeavorJ@cofc.edu), before or during the Drop/Add period to correct your schedule if this applies to you.*

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****Due to changing circumstances related to Covid-19 and potential hurricane evacuations, the course syllabus will be a living document. Any updates/changes will be added to the end of this syllabus and dated. You will receive an email at your official College email address when changes have been made***
REQUIRED MATERIALS

Textbook:

- Students can register for the course at [http://www.aleks.com](http://www.aleks.com).
- The ALEKS 360 code for this class is WM4LQ-WNL3K

Technology.

- A computer with reliable internet access, microphone, speakers and webcam.
- A scientific calculator.
- A method to scan in multiple pages of your handwritten work into a single pdf document that can be quickly uploaded to OAKS. I recommend AdobeScan, which is a free app that can be used with your cell phone. See the following link for a tutorial on how to scan in your work: [http://tlt.cofc.edu/2020/03/24/tech-tip-tuesday-how-to-scan-handwritten-drawn-work-to-a-pdf-to-submit-in-oaks/](http://tlt.cofc.edu/2020/03/24/tech-tip-tuesday-how-to-scan-handwritten-drawn-work-to-a-pdf-to-submit-in-oaks/).
- Adobe Acrobat DC, software for processing pdf documents that is available through the AppsAnywhere portal.

How to be successful in CHEM 112

*Chemistry is not a spectator sport!*

- **Prepare:** Do the assigned reading and practice problems from the textbook before coming to class. This will help you to actively participate in class and ask questions.
- **Practice:** The only way to get good at solving problems is to practice solving problems. Watching someone else solve the problem or reading the solution cannot substitute for you putting pen to paper and trying to solve the problem on your own.
- **Be consistent:** Develop a regular study schedule and learn the concepts as we discuss them in class. Chemistry is cumulative and it takes time for the concepts to sink in. You cannot cram chemistry.
- **Think:** Chemistry needs to be understood, not memorized. Always ask yourself why you are doing a certain step in a problem or using a particular equation. Take responsibility for learning the material and be actively engaged.

Communication with the Instructor

- The easiest way to contact me is through e-mail at krantzmank@cofc.edu. It is important for you to learn how to be professional in your email communications.
- When corresponding with me, please:
  - include CHEM 112 in the subject line
  - include a respectful greeting (e.g., “Hi Dr. Krantzman” or “Dear Professor Krantzman”)
  - fully sign your name
  - use complete sentences
  - proofread your email
- Typically, I will respond to your email within 24 hours, although my response time will be slower on weekends (24 – 48 hours).
Evaluation of Student Performance

**Expectations of Students**

- **Attendance is expected at all classes.** However, please do not attend in-person class if you are sick or under quarantine. 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 request help from the instructor about material missed.

- **You are responsible for all material covered or assigned in class or assigned via OAKS.** You should **check OAKS at least every other day** for any updates. PowerPoints for class, class notes, study guides and recommended homework problems will be posted on OAKS.

- It is of the upmost importance that you keep current in your studies. You are expected to spend a minimum of three hours of study for every hour spent in lecture. I am here to explain the material and help you to the best of my time and ability. However, the burden of learning is upon you, the student, which includes making use of tutors, supplemental instruction and office hours.

- **Problems from the textbook will be assigned, but not be graded.** The problems are representative of what you need to know for the tests and the final exam. **The key to success in this class is working through chemistry problems again and again.**

**Tests:** 60%

All tests will be given either online or in-person during the fifty-minute scheduled class period. Respondus LockDown Browser and Monitor in OAKS will be used for online tests and the final exam. Students will be required to scan in their written work as a single pdf file and upload it to Dropbox on OAKS.

**Final Exam:** 15%

A comprehensive, multiple-choice final exam will be given online during the scheduled exam period for the class:

- CHEM 112-01  9:00-9:50  8:00 AM -10:00 AM, Fri, Dec 11
- CHEM 112-03  11:00-11:50 10:30 AM -12:30 PM, Wed, Dec 9

**ALEKS:** 15%

ALEKS homework will be due every MWF at 11 PM except for days that there is a test during the class period. The ALEKS homework has been broken up into smaller chunks that can be completed in a smaller amount of time. At the end of the semester, the ALEKS grade will be calculated as 50 % on the completion of the learning objectives throughout the semester and 50 % on the completion of the pie.

**Quizzes:** 10%

Take-home quizzes will be given weekly and will be due at the beginning of the following class period.

**Make-up Policy:** There are no make-up tests or quiz, and a grade of zero will be assigned regardless of the reason. Both the lowest test and lowest quiz grade will be dropped in the averages calculated at the end of the semester.

- Late assignments will not be accepted.

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**Assignment of Letter Grades**

<table>
<thead>
<tr>
<th>Letter</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>93.0-100.0</td>
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<tr>
<td>A-</td>
<td>90.0-92.9</td>
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<tr>
<td>B+</td>
<td>87.0-89.9</td>
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<tr>
<td>B</td>
<td>83.0-86.9</td>
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<tr>
<td>B-</td>
<td>80.0-82.9</td>
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<tr>
<td>C+</td>
<td>77.0-79.9</td>
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<tr>
<td>C</td>
<td>73.0-76.9</td>
</tr>
<tr>
<td>C-</td>
<td>70.0-72.9</td>
</tr>
<tr>
<td>D+</td>
<td>67.0-69.9</td>
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<tr>
<td>D</td>
<td>63.0-66.9</td>
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<tr>
<td>D-</td>
<td>60.0-62.9</td>
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<tr>
<td>F</td>
<td>Below 60.0 %</td>
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</table>
COLLEGE OF CHARLESTON HONOR CODE AND ACADEMIC INTEGRITY

- Student conduct is expected to conform to the standards of the College of Charleston Student Honor Code Policy (http://deanofstudents.cofc.edu/policies-and-procedures/honor-code-and-code-of-conduct.php). Students can find the complete Honor Code and all related processes in the Student Handbook at: http://deanofstudents.cofc.edu/honor-system/studenthandbook/. In addition, students in this course are also expected to be aware and to conform to the standards of the Department of Chemistry & Biochemistry Policy on Scientific Integrity, which is posted on the department website at http://chemistry.cofc.edu.

- Students at the College of Charleston are bound by honor and by their enrollment at the College to abide by the Honor and Conduct codes and to report violations. Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when identified, are investigated. Each incident will be examined to determine the degree of deception involved.

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

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

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

Technology Troubleshooting

- If you have questions or problems related to the course, please follow the communication procedures noted above. If you have technical problems, please contact Student Computing Support or Helpdesk using these methods:

  - Student Computing Support
    - 843-953-5457
    - studentcomputingsupport@cofc.edu
    - blogs.cofc.edu/sits

  - Helpdesk
    - 843-953-3375
    - helpdesk@cofc.edu
    - it.cofc.edu/help/helpdesk

- It’s important to resolve technical problems swiftly, so do not delay getting support. Computer failure or unavailability does not constitute an excuse for not completing assignments.

Academic Support Services

The Center for Student Learning (CSL) is located on the first floor of Addleston Library, and offers a wide variety of tutoring and other academic resources. Make use of the Math Lab and the Science Lab as needed. Supplemental Instruction (SI) is offered in conjunction with this section of CHEM 112. SI sessions give students a chance to work together with trained SI leaders to discuss course concepts, develop strategies for studying course material, work problems, and review notes. All services are described and lab scheduled are posted on the CSL website (http://csl.cofc.edu).
# TENTATIVE COURSE CALENDAR

<table>
<thead>
<tr>
<th>Date</th>
<th>Chapter/Content</th>
<th>Date</th>
<th>Chapter/Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUG 26</td>
<td>First Day of Class, CH 12.2</td>
<td>AUG 28</td>
<td>CH 12.4-12.5</td>
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<tr>
<td>AUG 31</td>
<td>CH 13.1-13.3</td>
<td>SEPT 2</td>
<td>CH 13.4</td>
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<td>SEPT 4</td>
<td>CH 13.5, Quiz 1</td>
<td>SEPT 7</td>
<td>CH 14.1-14.3</td>
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<td>SEPT 9</td>
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<td>SEPT 11</td>
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<td>CH 14.5-14.6</td>
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<td>SEPT 18</td>
<td>CH 15.1-15.3, Quiz 2</td>
<td>SEPT 25</td>
<td>CH 15.6, Quiz 3</td>
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<td>CH 16.1-16.2</td>
<td>SEPT 30</td>
<td>CH 16.3-16.4</td>
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<td>OCT 2</td>
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<td>OCT 5</td>
<td>CH 16.5-16.5</td>
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<td>OCT 7</td>
<td>CH 16.7-16.8</td>
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<td>CH 16.9, Quiz 4</td>
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<td>OCT 12</td>
<td>CH 16.10</td>
<td>OCT 14</td>
<td>CH 16.11-16.12</td>
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<td>OCT 16</td>
<td>CH 17.1-17.2, Quiz 5</td>
<td>OCT 19</td>
<td>CH 17.3</td>
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<tr>
<td>OCT 21</td>
<td>CH 17.4</td>
<td>OCT 23</td>
<td>Test 3: CH 16 &amp; 17.1-17.3</td>
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<tr>
<td>OCT 26</td>
<td>CH 17.5</td>
<td>OCT 28</td>
<td>CH 18.1</td>
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<td>OCT 30</td>
<td>CH 18.2-18.3, Quiz 6</td>
<td>NOV 2</td>
<td>CH 18.4</td>
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<td>NOV 4</td>
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<td>NOV 11</td>
<td>CH 19.2-19.3</td>
<td>NOV 13</td>
<td>Test 4: CH 17.4-17.5 &amp; CH 18</td>
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<td>CH 19.4</td>
<td>Nov 6</td>
<td>CH 18.7-18.8, Quiz 7</td>
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<td>NOV 18</td>
<td>CH 19.5</td>
<td>NOV 20</td>
<td>CH 19.6, Quiz 8</td>
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<td>NOV 25</td>
<td>Thanksgiving Holiday</td>
<td>NOV 27</td>
<td>Thanksgiving Holiday</td>
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<tr>
<td>NOV 30</td>
<td>CH 19.8</td>
<td>DEC 2</td>
<td>Test 5: CH 19</td>
</tr>
<tr>
<td>DEC 4</td>
<td>Last day of classes Review for final exam</td>
<td></td>
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<tr>
<td>DEC 9</td>
<td>CHEM 111-03 Final Exam: 10:30 AM – 12:30 pm</td>
<td>DEC 11</td>
<td>CHEM 111-01 Final Exam: 8:00 AM – 10:00 AM</td>
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</tbody>
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Class Policies

Continuity of Learning (for hybrid classes with face-to-face meetings)
Due to social distancing requirements, this class will include a variety of online and technology enhanced components to reinforce continuity of learning for all enrolled students. Before the drop/add deadline, students should decide whether the course plan on the syllabus matches their own circumstances.

Accommodations for Students with Disabilities
This College abides by section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act. If you have a documented disability that may have some impact on your work in this class and for which you may require accommodations, please see an administrator at the Center of Disability Services/SNAP, 843.953.1431 or me so that such accommodation may be arranged.

OAKS
OAKS, including Gradebook, will be used for this course throughout the semester to provide the syllabus and class materials and grades for each assignment, which will be regularly posted.

Recording of Classes (via 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.

Inclement Weather, Pandemic or Substantial Interruption of Instruction
If in-person classes are suspended, faculty will announce to their students a detailed plan for a change in modality to ensure the continuity of learning. All students must have access to a computer equipped with a web camera, microphone, and Internet access. Resources are available to provide students with these essential tools.

Mental & Physical Wellbeing
At the college, we take every students’ mental and physical wellbeing seriously. If you find yourself experiencing physical illnesses, please reach out to student health services (843.953.5520). And if you find yourself experiencing any mental health challenges (for example, anxiety, depression, stressful life events, sleep deprivation, and/or loneliness/homesickness) please consider contacting either the Counseling Center (professional counselors at http://counseling.cofc.edu or 843.953.5640 3rd Robert Scott Small Building) or the Students 4 Support (certified volunteers through texting "4support" to 839863, visit http://counseling.cofc.edu/cct/index.php, or meet with them in person 3rd Floor Stern Center). These services are there for you to help you cope with difficulties you may be experiencing and to maintain optimal physical and mental health.

Inclusion
The College of Charleston offers many resources for LGBTQ+ students, faculty and staff along with their allies.

Preferred Name and Pronoun Information
On Campus Gender Inclusive facilities
Campus Resources
College of Charleston Reporting Portals
National Resources for Faculty & Staff
GSEC Reports
Documenting LGBTQ Life in the Lowcountry (CofC Addlestone Library Special Collections Project)