

KSU Distinguished Course Repository

Volume 3
Issue 1 *Featuring Excellence in Undergraduate
Courses*

Article 5

9-27-2023

Principles of Chemistry II

Janet L. Shaw
Kennesaw State University, jshaw22@kennesaw.edu

Follow this and additional works at: <https://digitalcommons.kennesaw.edu/dcr>



Part of the [Curriculum and Instruction Commons](#), [Life Sciences Commons](#), [Medicine and Health Sciences Commons](#), and the [Physical Sciences and Mathematics Commons](#)

Recommended Citation

Shaw, Janet L. (2023) "Principles of Chemistry II," *KSU Distinguished Course Repository*. Vol. 3: Iss. 1, Article 5.

Available at: <https://digitalcommons.kennesaw.edu/dcr/vol3/iss1/5>

This Course Design is brought to you for free and open access by the Active Journals at DigitalCommons@Kennesaw State University. It has been accepted for inclusion in KSU Distinguished Course Repository by an authorized editor of DigitalCommons@Kennesaw State University. For more information, please contact digitalcommons@kennesaw.edu.

All **italic text** provides instructions or important information for completing the syllabus. **Highlighted text** indicates areas where you need change or delete information.

Remove/edit all italic text and gray highlighting before distribution.

SYLLABUS

COLLEGE OF SCIENCE AND MATHEMATICS
DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY
CHEM 1212: PRINCIPLES OF CHEMISTRY II
SUMMER 2023

Course Information

Modality and Location: Asynchronous; D2L

Instructor Information

Name/Title: Janet L. Shaw, Associate Professor, PhD.

E-mail: jshaw22@kennesaw.edu *Preferred method of communication

Phone: 470-578-3428

Virtual Office Hours & Location:

*Preferred Method of Communication

Communication is vital in this course. D2L Discussion Boards should be used when asking any questions that your classmates may benefit from (i.e. course logistics, content questions etc.). D2L Email should be used for private and individual student questions and concerns (i.e. grade concerns, personal topics, to set an appointment etc.). Please let me know if anything arises that may affect your performance. I am here to help.

Email and Communication Response Times

All email correspondence sent to your instructor must be sent through the D2L email system. Email messages will be responded to within 24 hours of receipt unless sent on a Friday or weekend. Emails received on the weekend will be responded to on the following Monday. Your instructor will regularly monitor discussion boards and provide responses, guiding questions, and supplemental prompts as needed. Instructor response to discussion posts will be made within 2 weekdays of your original post. All quizzes and exams will be graded within 48 hours of submission. In the event that your instructor is unable to meet these expectations, communication will be sent to the class prior to the due date of that assessment.

Accommodations Statement

Kennesaw State University provides program accessibility and reasonable accommodations for individuals who have a disability defined under Sections 504 and 508 of the Rehabilitation Act and the Americans with Disabilities Act. Students with qualifying disabilities who require accommodations (academic adjustments and/or auxiliary aids or services) for this course must register with [Student Disability Services](#) to create an accommodation plan. Faculty will work with Student Disability Services to ensure approved accommodations are implemented appropriately for all course formats (face-to-face, online, hybrid, etc.) and in accordance with the applicable laws.



Course Description & Purpose

This is the second course in a two-semester sequence covering the fundamental principles and applications of chemistry for science majors. Course content includes chemical kinetics, chemical thermodynamics, liquids and solids, properties of solutions, chemical equilibrium, acids and bases, electrochemistry, and qualitative analysis. CHEM 1212 satisfies one of Kennesaw State University's General Education program requirements. Specifically, it addresses the Natural Sciences learning outcome. The learning outcomes states: Students will use scientific reasoning to understand physical and/or life science phenomena. For more information about KSU's General Education program requirements and associated learning outcomes, please visit [2020-2021 Undergraduate Catalog](#).

Course Level Learning Outcomes

Students will demonstrate a conceptual and mathematical understanding of:

1. the properties of ideal gases.
2. the dynamic nature of phase changes for pure substances and solutions including colligative properties.
3. the thermodynamic and kinetic forces involved in chemical reactions which determine how much and how soon products are formed.
4. the fundamentals of acid/base equilibria, including pH calculations, buffer behavior, acid/base titrations.
5. the basics of electrochemistry, and the relationship of electrical parameters to thermodynamics.

Required Textbook/Supporting Materials

Required Materials: The required course textbook available at the KSU bookstore is *Chemistry: an atoms-focused approach*, 3rd edition by Gilbert et al. In addition, you will need a scientific calculator capable of 'log' and 'ln'. No graphing/programmable calculators are allowed. You will also need access to a computer with reliable internet access, audio and video webcam capabilities.

Technology Requirements: Regular access to a computer with webcam and Lockdown browser software are required to complete this course. Right now, determine a back-up location should your internet service fail. No late work is accepted for any reason, including computer/internet issues. [D2L Accessibility Standards](#).

Required Technology Skills: To be successful in this course, you should have basic computer skills and be familiar with D2L. Course materials, lecture videos ([mediaspace accessibility](#)), homework assignments and examinations are available via D2L. Lockdown browser is required during examinations. Information on downloading this software is available on D2L in the 'Getting Started' content folder. Acceptable formats for turning in course materials include Microsoft Word (.doc, .docx), plain text (.txt), Portable Document Format (.pdf), and Rich Text Format (.rtf). A list of primers on many of these technologies is available at the [UITS Documentation](#) page.

Evaluation & Grading Policies

1. Homework assignments are available via D2L and are due the night before each unit exam at 11:59 pm. Assignments can be accessed via the D2L task bar by clicking on 'Assignments'.

Therein you can download each assignment and work at your leisure. Each assignment has a corresponding quiz in D2L with the same title. To submit your assignment for grading, you will be required to use the 'Quiz' feature in D2L. A recommended time limit of 1 hour is set for each quiz, but take as much time as needed. You get two attempts; your average quiz grade is recorded for each homework assignment. Once submitted, you will have instant access to graded feedback via 'submission views', so submitting assignments early is a good idea.

2. Four midterm unit exams will be given via D2L using webcam and Lockdown browser. Once all students have completed the exam, you will have access to the graded exam via 'submission views'. Each exam is worth 200 points and may include bonus point opportunities. Exam Redemption assignments are available via D2L after each exam and count as additional *bonus points*. Exam dates are listed below. There are no make-up exams. The lowest unit exam is dropped before calculating your final course grade. The three highest exams (*not including bonus*) total 600 points. You may earn more than 600 points in this grading category.
3. The final exam is comprehensive. The final exam date and time is listed below. This exam has 65 questions and is cumulative. The final exam (*not including bonus*) totals 200 points. This exam is taken face-to-face. The date, time and location of this exam can be found below.

These components (*not including bonus*) add up to 1000 points and your grade will be determined by the percent of the 1000 points you have earned:

A 100.0% to 90.0% (900 points and above); B 89.9% to 80.0% (800-899 points); C 79.9% to 70.0% (700-799 points); D 69.9% to 60.0% (600-699 points); F less than 60.0% (599 points and below).

Course Policies & Expectations

Attendance

This is an asynchronous online course. The only required attendance for this course is the standardized ACS final exam. This exam will be taken face-to-face. Date, time and location for the exam are provided below in the course outline.

Communication Rules/Online Course Etiquette

In any classroom setting there are communication rules in place that encourage students to respect others and their opinions. In an online environment the do's and don'ts of online communication are referred to as **Netiquette**. As a student in this course you should:

- Be sensitive and reflective to what others are saying.
- **Avoid typing in all capitals** because it is difficult to read and is considered the electronic version of 'shouting'.
- Don't flame - These are outbursts of extreme emotion or opinion.
- Think before you hit the post (enter/reply) button. You can't take it back!
- Don't use offensive language.
- Use clear subject lines.
- Don't use abbreviations or acronyms unless the entire class knows them.
- Be forgiving. Anyone can make a mistake.

- Keep the dialog collegial and professional, humor is difficult to convey in an online environment.
- Always **assume good intent** and **respond accordingly**. If you are unsure of or annoyed by a message, wait 24 hours before responding.

Expectations/Class Participation

For this asynchronous online class, you should read required sections of the text, engage with lecture videos, and actively work problems on the assigned homework/quizzes. The course Discussion board is a good place to collaborate with colleagues and ask questions. Student learning objectives (SLOs) are found on the first slide of each lecture and serve as your study guide. Lecture videos are available via D2L. No late work is accepted for any reason, including computer/internet issues.

Tips for Effective Online Learning

For an online class, students can really enjoy the benefits of learning at your own pace and in whatever environment that you choose. Below are some tips for effective online learning:

- **Check the D2L course website regularly.** Always be aware of the current status of the course. It might be helpful to subscribe to the RSS feeds within the Announcements Tool, sign up for text message alerts, or subscribe to your posts within the Discussions Tool. By taking advantage of the tools within the environment and the posted learning material, you can maintain an enhanced learning experience.
- **Work closely with your instructor.** If you have any questions, please contact your instructor immediately. The best way to contact me is via D2L email and you should expect a response within 24 hours unless it is the weekend.
- **Practice good time management.** If you can start a task early, don't start late. Assuming you spend the same amount of time completing the task, starting later will be much more stressful than starting early. Never wait until the last minute to begin an assignment! You'll have no turnaround time if you need help or something happens.
- **Review course materials frequently.** Study the assigned material, such as; virtual lectures, textbook chapters, PPT slides, etc.
- **Track deadlines.** Complete and submit assignments on time.

You can find more helpful information from [Online Learning Support](#).

Institutional Policies

Every KSU student is responsible for upholding the provisions of the Student Code of Conduct, as published in the Undergraduate and Graduate Catalogs. Section II of the Student Code of Conduct addresses the university's policy on academic honesty, including provisions regarding plagiarism and cheating, unauthorized access to university materials, misrepresentation/falsification of university records or academic work, malicious removal, retention, or destruction of library materials, malicious/intentional misuse of computer facilities and/or services, and misuse of student identification cards. Incidents of alleged academic misconduct will be handled through the established procedures of the Department of Student Conduct and Academic Integrity (SCAI), which includes either an "informal" resolution by a faculty member, resulting in a grade adjustment, or a formal

hearing procedure, which may subject a student to the Code of Conduct's minimum one semester suspension requirement. See also: [Academic Integrity Statement](#)

ADA Position Statement

Kennesaw State University, a member of the University System of Georgia, does not discriminate on the basis of race, color, religion, age, sex, national origin or disability in employment or provision of services. Kennesaw State University does not discriminate on the basis of disability in the admission or access to, or treatment or employment in, its programs or activities. For more information, visit KSU's [Institutional Policies](#) page.

Diversity Statement

Kennesaw State University prides itself on offering a premiere, personalized educational experience for leadership and engagement within a diverse nation and world. This educational experience is achieved through recognition and appreciation of the differing backgrounds and experiences reflected within the University community. It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit.

[Federal, BOR, & KSU Course Syllabus Policies](#)

Withdrawal

XXX is the last day to withdraw without academic penalty. Students who officially withdraw from courses before the last day to withdraw without academic penalty will receive a grade of "W" and receive no credit. Students who officially withdraw after the last day to withdraw without academic penalty and before the last week of the semester or who have exceeded the maximum number of withdrawals will receive a grade of "WF," which will be counted as an "F" in the calculation of their grade point average. If you are considering withdrawing from the course please consult your instructor so that you may make the most informed decision.

KSU Student Resources

This link contains information on help and resources, such as technology support and student success support services that are available to students: [KSU Student Support](#).

Additional Student Resources that may be helpful include the following:

[Student Technology Support](#)

[Academic Support](#)

[Financial Aid](#)

[Registrar](#)

[Bursar](#)

[KSU Accessibility](#)

[Student Data and Privacy](#)

Course Schedule

Below is an outline of the content and activities in each unit of the course. *Can be week-by-week or day-by-day. Should highlight content covered, assignments, and exams. Remember to include important dates such as last day to withdraw, holidays, mid-terms, final exams, etc.* All due dates for activities are in Eastern Standard Time

| Unit/Module | Content/Activities | | | Dates |
|---|-------------------------------------|--------------|-------------------|-----------|
| 1/1 | Read Ch9 Gases | Watch Videos | Complete Homework | Week 1 |
| 1/2 | Read Ch10 Thermochemistry | Watch Videos | Complete Homework | Week 2 |
| 1/3 | Read Ch 6.4,5/11 Phases/Solutions | Watch Videos | Complete Homework | Week 3 |
| | Exam 1 | | | TBD |
| 2/1 | Read Ch13/21.2 Kinetics/Decay | Watch Videos | Complete Homework | Week 3, 4 |
| 2/2 | Read Ch 14 Chemical Equilibrium | Watch Videos | Complete Homework | Week 4, 5 |
| | Exam 2 | | | TBD |
| 3/1 | Read Ch 15 Acids and Bases | Watch Videos | Complete Homework | Week 5, 6 |
| 3/2 | Read Ch 16 Aqueous Ionic Equilibria | Watch Videos | Complete Homework | Week 6, 7 |
| | Exam 3 | | | TBD |
| 4/1 | Read Ch 12 Thermodynamics | Watch Videos | Complete Homework | Week 7,8 |
| 4/2 | Read Ch17 Electrochemistry | Watch Videos | Complete Homework | Week 8 |
| | Exam 4 | | | TBD |
| | Final exam – in person | | | TBD |
| See Student Learning Objectives in Course Alignment Matrix documents on D2L for content specific skills. | | | | |

***You are now ready to complete the Syllabus Acknowledgment quiz on D2L. This quiz requires Lockdown browser software and a webcam environment check. Please let me know if you have any questions. Looking forward to an excellent semester. Dr. Shaw**