

Proposed CHEM 132 SCON Syllabus – modifications in red

**CHEM 132: General Chemistry II with Lab
Professor Kathryn Barker
Spring 2018**

Lecture: MWF 11:30 a.m. – 12:20 p.m. Stuart 1104 (Stafford Auditorium)

Laboratory: Stuart 1113/1121	132-L1	Mondays 1:30 – 4:30 p.m.	Prof. Boylan
	132-L2	Mondays 6:00 - 9:00 p.m.	Prof. Boylan
	132-L3	Tuesdays 1:15 – 4:15 p.m.	Prof. O'Neill
	132-L4	Wednesdays 1:30 – 4:30 p.m.	Prof. Barker
	132-L5	Thursdays 1:15 – 4:15 p.m.	Prof. Boylan

Office Hours: Mondays, Wednesdays, and Thursdays, 9:30 – 11:00 a.m., and by appointment

Office: Rector Science Complex, James Hall, Room 2223

Phone: 717-245-1831 (office) 717-249-6727 (home)

E-mail: barkerk@dickinson.edu

Text: *Chemistry*, 4th edition, with **Connect** by Julia Burdge. McGraw-Hill Publishing Co, New York, Chapters 14-19, 22 and parts of 23

Other Required Materials:

- A basic scientific calculator (Bring to every class and lab session.)
- H-ITT Transmitter (“Clicker,” available 1st day of class) with a 9-volt battery.
- *Student Notebook* (black), Student Notebook Co., 2010 (for laboratory, available at Dickinson Bookstore)
- UVEX Stealth Anti-Fog Safety Google or Odyssey II Anti-Fog Chemical Splash Goggle (for laboratory, available at Dickinson Bookstore).
- *Bulwark* flame-resistant laboratory coat (available at Dickinson Bookstore).

About the Course:

This course, along with CHEM 131, is intended to provide a solid grounding in the fundamental concepts of chemistry and preparation for more advanced courses in the sciences. It will also illustrate the many ways that chemistry impacts your life, regardless of your intended major.

To do well in this course, you need to be actively engaged in learning. You are expected to attend every class and laboratory session, to ask questions, and to do the reading and homework sets. To be successful, you will need to spend 2-3 hours or more outside of class studying for every hour spent in lecture.

This section of CHEM 132 satisfies Dickinson College’s sustainability graduation requirement. A working definition of sustainability adopted at Dickinson is the ability to improve human wellbeing equitably in this generation while protecting the environment and creating the conditions necessary for future generations to sustain a works that is environmentally healthy, socially just and economically robust. In this course, we will incorporate Sustainability Learning with an emphasis on historic iron production in Central Pennsylvania, including its environmental, social and economic effects. Examples and demonstrations of relevant iron and charcoal chemistry will be used to illustrate many of the concepts covered this semester. A guest speaker and a required place-based learning trip to Pine Grove Furnace State Park are planned for the end of the semester.

Learning Objectives:

- Be able to identify and solve chemical problems (including organizing a math problem).
- Become skilled in problem-solving, critical thinking, and data collection.
- Be able to understand how to present data in graphic form.
- Be able to identify trends in data.
- Be able to understand how to apply concepts and integrate how they relate to each other.
- Be able to communicate results.
- Be able to design, carry out, record and analyze the results of a scientific experiment.
- Consider the sustainability of historic iron production in Central Pennsylvania while studying the relevant chemistry and metallurgy.
- Develop a sense of place by exploring a local iron and charcoal production site.
- Think and write critically about the effects of historic iron production on the environment and on the human condition in past, present, and future generations.

Commented [G1]: Inserted: -

Course Information:

Information for this course will be available on the CHEM 132 Moodle site. Information specific to the laboratory part of the course will be provided by your lab instructor and posted on the separate CHEM 132 Laboratory Moodle site. To Homework problem sets will be posted to our McGraw-Hill **Connect** course website

Commented [G3]: Inserted: To

Commented [G4]: Deleted:om

<https://connect.mheducation.com/class/k-barker-spring-2018-mwf-1130>

where you can register using your purchased **Connect** code.

Once you have registered, you can log in to view the eBook, use the LearnSmart SmartBook, or complete and review your homework assignments. There will be one or two homework sets per chapter. For questions regarding the text and **Connect**, call (800) 331-5094, e-mail or chat at <http://mpss.mhhe.com> or visit <http://www.connectstudentsuccess.com>.

Exams and quizzes will begin promptly at 11:30 a.m. and only run for the designated time (50 and 10 minutes, respectively). Late arrivals will not be given additional time. Requests for make-up exams **or an assignment in lieu of the field trip** must be approved and documented or verified by your class dean. There will be no make-up quizzes. Instead of make-up quizzes, the lowest quiz score for each student will be dropped.

Commented [G5]: Inserted: ad

Commented [G6]: Inserted: st

Commented [G9]: Deleted:for

Commented [G10]: Deleted: li

Commented [G11]: Deleted:u

Commented [G7]: Inserted: ad

Commented [G8]: Inserted: st

Commented [G12]: Deleted: li

Commented [G13]: Deleted:u

H-ITT transmitters will be used to enhance student engagement in the learning process and allow real-time feedback on comprehension for both students and the instructor. Students who use their transmitter to answer at least one "clicker" question will receive a participation point for that day. If you attend but do not bring or use your transmitter, you will not receive a point for that day. To allow for illness and equipment problems, three days may be missed without penalty. Up to 6 additional extra credit points may be awarded for minor assignments and projects.

You are required to attend every laboratory session. Make-up labs will only be allowed if the absence is approved and documented and there is available space in another laboratory section. Students who miss more than one laboratory session will receive a failing grade in the course.

Grading:

- | | |
|---|----------------------------|
| • Three 50-minute semester exams | 30% (10% each) |
| • Seven quizzes | 12% (lowest score dropped) |
| • Final exam | 20% |
| • Sustainability field trip and writing assignment | 3% |
| • Participation/attendance via "Clicker" and projects | 5% |
| • Homework sets | 5% (lowest score dropped) |
| • Laboratory component | 25% (see lab Moodle site) |

Commented [G14]: Inserted: H

Commented [G15]: Inserted: .

Commented [G16]: Deleted: ,

Commented [G17]: Deleted:h

Commented [G18]: Deleted: in order

Final grades in this course will not be curved. However, the class average for each exam will be scaled so that it does not fall below 75%. If the class mean is above 75% there will be no scaling factor used. Details can be found in *J. Chem. Educ.* **1990**, 67, 414. Note that departmental policy requires your scaled exam average (3 exams and the final) be $\geq 60\%$ to receive a passing grade in the course.

Grade Scale:

Numerical average	Letter grade	Numerical average	Letter grade
93-100%	A	73-76%	C
90-92%	A-	70-72%	C-
87-89%	B+	67-69%	D+
83-86%	B	63-66%	D
80-82%	B-	60-62%	D-
77-79%	C+	<60%	F

Class etiquette:

Please turn off your cell phones and refrain from text messaging during class. In order to facilitate student learning with a minimum of interruption, it is essential that you arrive on time for class. Please be considerate of others by keeping in-class conversations to a minimum during lecture.

Accommodating Students with Disabilities:

Dickinson values diverse types of learners and is committed to ensuring that each student is afforded an equal opportunity to participate in all learning experiences. If you have (or think you may have) a learning difference or a disability – including a mental health, medical, or physical impairment – that would impact your educational experience in this class, please contact the Office of Disability Services (ODS) to schedule a meeting with Director Marni Jones. She will confidentially discuss your needs, review your documentation, and determine your eligibility for reasonable accommodations. To learn more about available supports, go to www.dickinson.edu/ODS, email DisabilityServices@dickinson.edu, call (717) 245-1734, or go to ODS in 106 Dana Hall.

If you've already been granted accommodations at Dickinson, please let me know as soon as possible so that we can meet to review your Accommodation Letter and complete your "Blue Form" Implementation Plan. If you will need test proctoring from ODS, remember that you will need to provide them with at least one week's notice.

Plagiarism:

For our purposes, the definitions of cheating and plagiarism are those found in the most recent *Dickinson College Community Standards* (http://www.dickinson.edu/info/20273/dean_of_students/867/community_standards). Note that while laboratory experiments are often performed with other students, lab reports, notebooks and other work must be completed individually unless your lab instructor explicitly permits collaboration.

The Quantitative Reasoning Center:

Dickinson's trained peer tutors in the Quantitative Reasoning Center can assist you with mathematical concepts, problem sets, data analysis, and other computational tasks related to this course. They can also help you understand quantitative concepts, reason through problems, and navigate software such as Excel and ChemDraw. You can view the schedule and make an appointment online at this link:

<https://dickinson.mywconline.com/> For more information on the tutors and their specialties, visit the web: http://www.dickinson.edu/info/20158/writing_program/2962/quantitative_reasoning_center

Other support:

- Faculty office hours – Your instructors in lecture and lab have office hours each week and are also available by appointment.
- Group tutoring sessions – schedule to be announced
- A limited number of peer tutors are available through the Office of Academic Advising. Requests for individual student tutors can be considered for students with low quiz or exam scores who present evidence of using each of the above forms of outside help.

