Chemistry in Context

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Class meetings: Online via Canvas Zoom & Canvas (Yale’s Learning Management System). Classes start on Monday, July 12. Class hours: Monday thru Friday, 9:15 to 10:30 am

Goal / Purpose: Understanding basic chemistry facts and concepts. Applying that knowledge to appreciate how chemistry is intricately involved in everything we do in our daily lives. Making prudent decisions for sustainability which is essential for healthy ecosystems, healthy communities, and healthy economies.

Please watch two short videos Introduction & Acidic Nature of CO₂ in Media Library
Please take a look at the Sample PowerPoint Slides under Files on the left.

Syllabus: Chapters (and most subtitles in each chapter) in the textbook will be covered in numerical order; for details, look in the Syllabus menu in Canvas and next page. In class, basic and important chemical facts and concepts mentioned in each chapter in the textbook will be discussed. Students need to study each entire chapter ahead of time to appreciate how these facts and concepts help us understand what goes on in our everyday lives, and what we can / should do.

Items needed: Textbook (see above), either hard copy or ebook, computer, scientific calculator

Attendance: All class meetings will be mainly discussions of basic chemical concepts and facts. Numerous demonstrations will be carried out to illustrate these concepts and facts. The instructor intends to show all basic but important features of chemistry including substances, their properties, reactions, and other chemical phenomena. He hopes these activities, the proper way to learn science, render each class meeting interesting enough that students look forward to each class meeting with enthusiasm and dedication.

Homework: Select set of questions at the end of each chapter from the book, plus a few additional problems. These need to be submitted in Canvas as pdfs.

Office hours: From 10:30 to 11:30 am Monday thru Thursday from July 13 to August 12. Appointments at other times can be arranged by email.

Midterm tests: A practice test will be offered in the week of July 6 prior to the first midterm test
Midterm test 1: July 23, Friday, 9:15 to 10:15 am, Online (Canvas), closed book
Midterm test 2: August 6, Friday, 9:15 to 10:15 am, Online (Canvas), closed book

Final exam: August 13, Friday 9 am to 11:00 am, Online (Canvas), closed book
**Grading:**

Homework (Problem sets): 10%
Midterm test 1: 25%
Midterm test 2: 25%
Final Exam: 40%

**Letter grades:** The **class average** of the overall scores (as calculated above) will correspond to a letter grade of **B or B+**. Overall scores slightly less than the class average will correspond to a B, whereas overall scores slightly greater than the class average will correspond to a B+. Other letter grades will be assigned with reference to the class average, and by utilizing discernible gaps in the distribution of overall scores.

Some friendly advice: Take this course with the attitude that you are taking it because you want to learn chemistry, not because you have to. **Chemistry S101 classes start on Monday, July 12.** Do not miss a single class. If you must, it is your responsibility to watch and learn Zoom recordings. Always keep yourself informed of everything that is happening in class, including demonstrations. The midterm tests and the final exam may have questions related to the demonstrations. Do not hesitate to seek help from Dr. G if and when needed. Do not procrastinate. Cultivate and display interest in the subject. To do well in the midterm tests and the final exam, make sure you can do all the examples we do in class, and answer all the questions / problems in the **assigned homework sets** on your own (with no help) the second time around.

**Syllabus and calendar:** The following chapters in the book will be covered in the same order.

- Chapter 1: Portable Electronics
- Chapter 2: The Air We Breathe
- Chapter 3: Radiation from the Sun
- Chapter 4: Climate Change
- Chapter 5: Energy from Combustion
- Chapter 6: Energy from Alternate Sources
- Chapter 7: Energy Storage
- Chapter 8: Water Everywhere: A Most Precious Resource
- Chapter 9: The World of Polymers and Plastics
- Chapter 10: Brewing and Chewing
- Chapter 11: Nutrition
- Chapter 12: Health & Medicine