Overview of the Course

Course Overview

When Do The Classes Meet?

- The course is 5 weeks from July 26 to Aug 26.
- All lectures are prerecorded and can be found on Canvas under Assignments (each lecture has a 6-question multiple choice quiz in it).
- There are two optional problem solving sessions per week with Prof. Peter Weiss. These are Tuesday and Friday at 10:30am-noon. The exception is the first Tuesday (7/27) when the problem solving session will be 1:30-3:00pm.
- There are two optional discussion sections per week with TA Rene Mercado. These are Monday and Wednesday at 10:00-11:30am.
- All class meetings (problem solving sessions and discussion sections) are optional and each will be recorded and posted to Canvas under the YuJa tab.
- The URL for the Zoom meeting for all class meetings is **https://ucsc.zoom.us/j/92328308473?pwd=L2w2a2JOS3IxN3IlYVdPUHVjeFdtUT09 (https://ucsc.zoom.us/j/92328308473?pwd=L2w2a2JOS3IxN3IlYVdPUHVjeFdtUT09)**

What is Covered

- This course covers thermodynamics (the 1st, 2nd, and 3rd laws), electrochemistry, the nature of pure substances, properties of solutions, and nuclear chemistry.
- In our textbook, Zumdahl and Decoste, 8th ed., we cover chapters 9, 10, 11, 16, 17, and 20. The textbook is available with your Cengage Web Assign subscription. Go to the Register for WebAssign for the First Time and purchase Cengage Unlimited. It is $119 for 4 months or $179 for the year. This includes the e-textbook and WebAssign.

What Students Will Do

- Read the assigned pages in the textbook. These are specified on the pages called "Topics Covered" for each week on Modules.
- Review the lecture slides listed in each week's module.
- Watch the prerecorded video lectures and complete the associated video quizzes by their due dates.
- Attend optional problem-solving sessions, which will be offered 2x per week on Zoom, Tuesday and Friday 10:30am - 12:00pm. These sessions will be recorded and available for watching anytime with links provided on Modules.
- Attend TA-led discussion sections dates/times will be Monday and Wednesday 10:00-11:30am. You can attend any section you want.

- Log into Canvas regularly, our web portal for the course. Find the links to Piazza, Modules, Discussion, and Grades on the left side.
- Post general discussion questions and respond to other students' questions on Piazza. Post homework problem-specific questions to Web Assign Messages (Ask Your Teacher) or Piazza.
- Complete 6 end-of-chapter problem homework assignments.
- Take 6 60-min quizzes, one after each chapter, lowest score dropped
- Take 1 3-hr final exam, cumulative.

General Learning Outcomes

- Recognize how energy flow controls the outcome of a chemical reaction.
- Develop a quantitative understanding of why a reaction goes forward or backward or not at all.
- Utilize electrochemical potentials to predict reaction outcomes.
- Analyze the forces attracting molecules to one another.
- Know the microscopic structures of pure solids, liquids, and gases.
- Predict outcomes of the solution processes by knowing the physical properties of solutions.
- Solve problems involving nuclear decay processes and mass to energy conversions.

Required Materials

- Cengage Web Assign Subscription, which includes access to our textbook *Chemical Principles*, 8th edition, by Zumdahl and Decoste. Click here to learn how to purchase a subscription.
- You should also have a hand-held scientific calculator but an online calculator will also do.

Graded Elements of the Course

- **End of Chapter Problems (Homework) (25% of your grade):** Given on WebAssign, these problems are from the end of each chapter we are covering (6 problem sets total). 5 tries per problem. Focus on quantitative problems. Use the Ask Your Teacher message platform or Piazza to communicate with the teaching team if you have questions about these problems.
- **Video Quizzes (25% of your grade, lowest score dropped):** These questions will be available at the completion of video segments. They will focus mostly on the conceptual aspects of the material. Use Piazza on Canvas to ask questions to the teaching team about these problems. 2-tries for each video quiz. Note that Yuja does not provide the correct answer after the quiz. The key for each week's video quizzes is posted to Canvas after the due date.
- **Chapter Quizzes (25% of your grade, best 5 out of 6):** There are 6 quizzes on Web Assign (one for each chapter), with the lowest score dropped. These are timed tests (60 min) that can be accessed during a 3-day window. The questions are mostly quantitative.
- **Final Exam (25% of your grade):** This test will be cumulative of the course and will be given on Web Assign. It is a 3-hour test that can be accessed during a 2-day window.
- The Chapter Quizzes and the Final Exam are open-book, open-note, open-internet. However, you must work independently (no asking anyone for help) and cannot post material to Chegg or

similar sites. Abuse of the honor system will not be tolerated and penalties are severe. See the page on Academic Integrity for more information

- Late Policy: Assignments may be turned in late and each case will be examined by the instructor. Request an extension for the homework on WebAssign Messages. Send an email to Peter Weiss to request an extension for the Chapter quizzes. The video quizzes require no instructor-granted extensions. Credit may or may be granted for late work, it depends on the circumstances.

Time Budget for this Course

For this course, estimates of workload (per week) are:

- Reading the textbook – 2 hours
- Watching the lecture videos – 5 hours
- Completing the video quizzes – 2 hours
- Completing the end of chapter problems – 4 hours
- Attending problem solving sessions on Zoom or watching on Webcast – 5 hours
- Reviewing and studying for the quizzes and final exam – 3 hours

Letter grade equivalent of percentage score:

- A+: 96.50-100
- A: 92.50-96.49
- A-: 89.50-92.49
- B+: 85.50-89.49
- B: 81.50-85.49
- B-: 76.50-81.49
- C+: 71.50-76.49
- C: 59.50-71.49
- D: 54.50-59.49

Teaching Team Information

The Teaching Team

Instructor

- Dr. Peter Weiss – Continuing Lecturer
  - pweiss@ucsc.edu (mailto:pweiss@ucsc.edu)
  - (831) 459-1616
  - Peter Weiss-Penzias research website: https://research.pbsci.ucsc.edu/metx/pweiss/ (https://research.pbsci.ucsc.edu/metx/pweiss/)
  - (https://research.pbsci.ucsc.edu/metx/pweiss/) The Singing Scientist - Environmental Education Music: https://open.spotify.com/artist/3VwaVSsxp4R3C060vL4KcK (https://open.spotify.com/artist/3VwaVSsxp4R3C060vL4KcK)

TA

- Rene Mercado <rsmercad@ucsc.edu>

Search for Assignment

+Group + Assignment (https://canvas.ucsc.edu/courses/44645/assignments/new)

Optional Assignments

0% of Total

Introduction to Web Assign (optional)
(https://canvas.ucsc.edu/courses/44645/assignments/261547)
Due Jul 30 at 11:59pm | 15 pts

Watch the Lectures and take the Video Quizzes

25% of Total | 1 Rule

Course Introduction and Practice Video Quiz
(https://canvas.ucsc.edu/courses/44645/assignments/261759)
Due Aug 1 at 11:59pm | 2 pts

Video Quiz Lecture 1
(https://canvas.ucsc.edu/courses/44645/assignments/261774)
Due Aug 1 at 11:59pm | 6 pts

Video Quiz Lecture 2
(https://canvas.ucsc.edu/courses/44645/assignments/261785)
Due Aug 1 at 11:59pm | 6 pts

Video Quiz Lecture 3
(https://canvas.ucsc.edu/courses/44645/assignments/261787)
Due Aug 1 at 11:59pm | 6 pts

Video Quiz Lecture 4
(https://canvas.ucsc.edu/courses/44645/assignments/261788)
Due Aug 1 at 11:59pm | 6 pts

Video Quiz Lecture 5
(https://canvas.ucsc.edu/courses/44645/assignments/261789)
Due Aug 6 at 11:59pm | 6 pts

Video Quiz Lecture 6
(https://canvas.ucsc.edu/courses/44645/assignments/261790)

Due Aug 6 at 11:59pm | 6 pts

Video Quiz Lecture 7 (https://canvas.ucsc.edu/courses/44645/assignments/261791)
Due Aug 6 at 11:59pm | 6 pts

Video Quiz Lecture 8 (https://canvas.ucsc.edu/courses/44645/assignments/261792)
Due Aug 6 at 11:59pm | 6 pts

Video Quiz Lecture 9 (https://canvas.ucsc.edu/courses/44645/assignments/261793)
Due Aug 6 at 11:59pm | 6 pts

Video Quiz Lecture 10 (https://canvas.ucsc.edu/courses/44645/assignments/261775)
Due Aug 13 at 11:59pm | 6 pts

Video Quiz Lecture 11 (https://canvas.ucsc.edu/courses/44645/assignments/261776)
Due Aug 13 at 11:59pm | 6 pts

Video Quiz Lecture 12 (https://canvas.ucsc.edu/courses/44645/assignments/261777)
Due Aug 13 at 11:59pm | 6 pts

Video Quiz Lecture 13 (https://canvas.ucsc.edu/courses/44645/assignments/261778)
Due Aug 13 at 11:59pm | 6 pts

Video Quiz Lecture 14 (https://canvas.ucsc.edu/courses/44645/assignments/261779)
Due Aug 19 at 11:59pm | 6 pts

Video Quiz Lecture 15 (https://canvas.ucsc.edu/courses/44645/assignments/261780)
Due Aug 19 at 11:59pm | 6 pts

Video Quiz Lecture 16 (https://canvas.ucsc.edu/courses/44645/assignments/261781)
Due Aug 19 at 11:59pm | 6 pts

Video Quiz Lecture 17

(https://canvas.ucsc.edu/courses/44645/assignments/261782)
Due Aug 23 at 11:59pm | 6 pts

Video Quiz Lecture 18
(https://canvas.ucsc.edu/courses/44645/assignments/261783)
Due Aug 23 at 11:59pm | 6 pts

Video Quiz Lecture 19
(https://canvas.ucsc.edu/courses/44645/assignments/261784)
Due Aug 23 at 11:59pm | 6 pts

Video Quiz Lecture 20
(https://canvas.ucsc.edu/courses/44645/assignments/261786)
Due Aug 26 at 11:59pm | 6 pts

WebAssign Homework

25% of Total

Homework 1 (https://canvas.ucsc.edu/courses/44645/assignments/261548)
Due Aug 1 at 11:59pm | 100 pts

Homework 2 (https://canvas.ucsc.edu/courses/44645/assignments/261550)
Due Aug 8 at 11:59pm | 100 pts

Homework 3 (https://canvas.ucsc.edu/courses/44645/assignments/261552)
Due Aug 16 at 12pm | 100 pts

Homework 4 (https://canvas.ucsc.edu/courses/44645/assignments/261554)
Due Aug 20 at 11:59pm | 100 pts

Homework 5 (https://canvas.ucsc.edu/courses/44645/assignments/261556)
Due Aug 23 at 11:59pm | 100 pts

Homework 6 (https://canvas.ucsc.edu/courses/44645/assignments/261559)
Due Aug 26 at 11:59pm | 100 pts

WebAssign Quizzes

25% of Total | 1 Rule

Quiz 1 (https://canvas.ucsc.edu/courses/44645/assignments/261549)
Due Aug 1 at 11:59pm | 20 pts

Quiz 2 (https://canvas.ucsc.edu/courses/44645/assignments/261551)
Due Aug 8 at 11:59pm | 20 pts

Quiz 3 (https://canvas.ucsc.edu/courses/44645/assignments/261553)
Due Aug 16 at 12pm | 20 pts

Quiz 4 (https://canvas.ucsc.edu/courses/44645/assignments/261555)
Due Aug 20 at 11:59pm | 20 pts

Quiz 5 (https://canvas.ucsc.edu/courses/44645/assignments/261557)
Due Aug 23 at 11:59pm | 20 pts

Quiz 6 (https://canvas.ucsc.edu/courses/44645/assignments/261558)
Not available until Aug 23 at 11:59pm | **Due** Aug 26 at 11:59pm | 20 pts

WebAssign Final Exam

25% of Total

Final Exam (https://canvas.ucsc.edu/courses/44645/assignments/261560)
Not available until Aug 24 at 11:59pm | **Due** Aug 26 at 11:59pm | 58 pts

Topics Covered in Week 5

Reading in Zumdahl and Decoste, 8th ed.

- 20.1, 20.2, 20.3, 20.5, 20.6

Key Topics

- Sub atomic particles
- Balancing nuclear equations
- Predicting nuclear stability
- Kinetics and nuclear decay reactions
- Use half-life and rate of decay equations
- Mass defect and binding energy
- Fission reactions

Topics Covered in Week 4

Reading in Zumdahl and Decoste, 8th ed.

- 17.1, 17.2, 17.3
- 17.4, 17.5, 17.6, 17.7

Key Topics

- The nature of solutions
- Concentration calculations with solutions
- Thermodynamics of the solution process
- Predicting solubility trends based on the IMF rules
- Solids dissolved in liquids and the concept of supersaturation
- Henry's Law of gas solubility in liquids
- Raoult's Law with a non-volatile solute
- Raoult's Law with two volatile solutes
- Deviations to Raoult's Law
- Boiling point elevation and freezing point depression
- Osmotic pressure
- Colligative properties of electrolyte solutions and the Vant Hoff factor

Topics Covered in Week 3

Reading in Zumdahl and Decoste, 8th ed.

- 11.4 through 11.8
- 16.1, 16.2, 16.3, 16.4, 16.5, 16.6, 16.10, 16.11

Ch 11

- The Nernst Equation and non-standard E of the cell
- Application of Le Chatelier's Principle to the galvanic cell
- Concentration Cell calculations
- Equilibrium Constant for Solubility (Ksp)
- Electrolysis reactions and electrochemical stoichiometry
- Batteries and Corrosion

Ch 16

- Intermolecular Forces (IMFs)
- Electronegativity, Bond Polarity, Ion Sizes, and Molecular Structure
- Predict trends in boiling points and melting points
- Apply IMF rules to organic compounds
- Properties of liquids
- Properties of solids
- Crystalline elemental solids and the cubic unit cell
- Calculations of the atomic radius and density using unit cell equations
- Vapor pressure as a function of temperature given by the Claussius-Clapeyron equation
- Phase diagrams

Topics Covered in Week 2

Reading from Zumdahl and Decoste 8th ed.

- 10.1 through 10.6, and 10.8
- 10.7, 10.9, 10.10, 10.11, 10.12, 10.13
- 4.10, 4.11, 11.1, 11.2, 11.3

Key Topics

Ch 10

- Introduction to the 2nd law
- Reversible and irreversible processes
- Definition of entropy and calculation of entropy for physical processes
- Entropy in terms of randomness and the probability of an outcome
- Entropy of the system, surroundings, and universe and definition of a spontaneous process
- Calculations using standard molar entropy and the 3rd law
- Comparing entropies of different substances
- Calculation of entropy of the system, surroundings, and universe to determine spontaneity
- Gibbs free energy (G^o) in terms of enthalpy and entropy of a chemical reaction
- Sign conventions of ΔG^o, H, and ΔS
- Using the spontaneity grid and predicting the effect temperature on spontaneity
- Standard ΔG^o of formation
- The relationship between ΔG^o and useful work for reversible and irreversible processes
- Non-standard ΔG: accounting for changing pressures and concentrations during the course of a reaction
- Reaction quotient Q and its relation to the equilibrium constant K
- Calculating non-standard ΔG to determine spontaneity at any point in the reaction
- Calculating the direction a reaction will shift in relation to Le Chatelier's Principle

Ch. 11

- Oxidation-reduction reactions terminology
- Assigning oxidation numbers
- Balancing redox equations
- Standard reduction potentials
- Free energy ΔG^o and cell potential E^o
- The galvanic cell: calculating cell potentials from 1/2 reaction E^o values.
- Predict reaction spontaneity using data from the table of standard reduction potentials
- Choose the strongest oxidizing or reducing agent from a list of choices

Topics Covered in Week 1

Reading in Zumdahl and Decoste, 8th ed.

- 9.1, 9.2, 9.3,
- 9.4, 9.5, 9.6

Key Topics

- Basic energy concepts and definitions
- State variables
- Gases in pistons
- Equations for Heat, Work, and Internal Energy
- Sign conventions for Heat, Work and Internal Energy
- Exothermic and Endothermic processes
- The difference between heat and temperature
- Solve problems using the 1^{st} law equations
- State vs. path functions
- Constant P, V, and T conditions in 1^{st} law problems
- Enthalpy and molar heat capacity
- Calculations of thermodynamic variables using ideal gas and 1^{st} law equation and P-V diagrams
- Exothermic and endothermic chemical reactions
- What is calorimetry and an isolated system?
- Calorimetry calculations for the four types of experiments: heat capacity of metal, heat of reaction for aqueous solution, bomb calorimetry, and heat of phase changes
- Hess' Law and Standard Enthalpy of Formation reactions

Collapse All | View Progress | + Module

Zoom Recordings

- 8-20-21 Problem Solving (https://ucsc.zoom.us/rec/share/TIAlPa9DV8Ls-iMw57IFy2WR-ZLtyUDBmH2_06HHPCO5cRCKV3gGZPpd-T0j47k.hgOQ5Lqqhi6GTXNr)
- 8-19-21 Problem Solving (https://ucsc.zoom.us/rec/share/xAPzng8VJPDHRWaAeejxBHmAtwETVUEG4fmh20pSZU9BbNt5vwQj4GIPSi7rtxyZ.dEBTsYw4osdzQaCA)
- 8-18-21 Section (https://ucsc.zoom.us/rec/share/du6xIbvz9mONoJGkwlhPdpXDcLTTRuvO_QFLcikRpN_r6eLrhetU807HSPxVpBnN.lvph_g7UfPrVneBI)
- 8-16-21 Problem Solving (https://ucsc.zoom.us/rec/share/y7_AFsTiKDZ_HYoB4UGWZ-Hic_EMPh7ZPxoQdKHZi3cPjUepUdNfQDf9KVIhPFqs.dCTi31CdU3drLvmj)
- 8-13-21 Problem Solving (https://ucsc.zoom.us/rec/share/Y7CNDAghA37BIXhZx1_YhLIB1OGO3HYd9BmNn1wRbqK7svzSf5FEHuCw2JMIEQI.J_hiuJWH6-UxKMKT)
- 8-11-21 Section (https://ucsc.zoom.us/rec/share/e-v4GFiqKmp7_Q0GnpUQaD-50J8S-5jvuAKzrkNBTRwwazgU8DnNID6Z2DtUk9JY.YyqrOUMN2WvG6IYj)
- 8-10-21 Problem Solving (https://ucsc.zoom.us/rec/share/84hjcR8hD8kiAYMkYTbMEcgGbCNRkTFZ_Fzzptt5c8RBYfEN86Ayp6IYuW3zSWwe.aeMeXPi9EJNO-op-)
- 8-9-21 Section (https://ucsc.zoom.us/rec/share/TM5Ex1n4BV6dj9QIUjKmjhNb5E4HS9ZO_8bd94th6kIfqXw7rzFpUomCq5WJjcYd.OhmoXInxuOWeU42a)
- 8-6-21 Problem Solving (https://ucsc.zoom.us/rec/share/fSZXPKxj-HkC6C5kwQsqUDILD68BIhDKR8ekGRYbdow2HqYThJxRmK9AzS3xWf3d.qiqM

3jEObKAK18ks)

8-4-21 Section (https://ucsc.zoom.us/rec/share/t8W6dxO284njLqEzCmjbiuWB5yEhWdcLOz99su376uGV1Bzi9MIKA4mKSE_Ge8ii.jxD0QDhxUPv9bTEp)

8-3-21 Problem Solving (https://ucsc.zoom.us/rec/share/Y30smua5JjvAU43bTN2oH1nrNDZps73Qp2P3-FfS_CADpCdxQPL7vTE52GMzfDSo.nemfwNYfkieNrDM_)

8-2-21 Problem Solving (https://ucsc.zoom.us/rec/share/oq46aG_Rbfn8rGjF-aX_9SALyRz6x_oL5SKVDu1VHjTYgcT9WQ7rkSToEFQZBaJN.UAODXkdN5AUkK72X)

7-30-21 Problem Solving (https://ucsc.zoom.us/rec/share/dbWzyYnntB5oEEuH1CFwzw1_QmaYP3i_qG61jxUW1E4YOVC9ViKfQXsBrailbRNv.s4qsEIafINcWQiT9)

7-28-21 Section (https://ucsc.zoom.us/rec/share/qwD6Smm7Ivth0-2o1HMLmFZaRJa_o6kQwwNjhjjmNaThvwom9i0o0h430kKNj61g.eKOBolYTLN5rqqKR)

7-27-21 Problem Solving (https://ucsc.zoom.us/rec/share/FamUBCB3W0ajLLO_LZT-iMD9LBpTYqakz6J9ZbfPPBwF9yIriXxi5AfV8Gh_PhDI.V6CBFjUkF6AiIc7Q)

7-26-21 Section (https://ucsc.zoom.us/rec/share/aIV7-k8uMMwT1HIFd7rvwMi5mEgY-PmuQ1-br3fXMVYp4ZL-zbS5Ds2JT6Xwgniv.4vskN6HkIQrq-4U6)

7-26-21 Explanation of the Course (https://ucsc.zoom.us/rec/share/IVqWFiQ7kIZhubL5pnnYzssIu4tTTOH6587S8di8oH6Et17JMf7U0ukeID6kJBLM.79QVHhUjNNvKAK12)

Problem Solving Session Worksheets

Problems 8-20-21 (https://docs.google.com/document/d/1Z_v23zwsnVnyybvxWCpfpRioSII8n-BJcwibnFZPK3o/edit)

Problems 8-19-21 (https://docs.google.com/document/d/1tXFJKrXsh4VbRW5sOLBj_zJ5lqS6FFaphRguXU1aeQY/edit)

Jamboard 8-16-21 (https://jamboard.google.com/d/1I_MmaYViMHkOh5FrSFCXVhXUhgxCn2FxSNqykTXT_Uc/viewer?f=0)

Problems 8-16-21 (https://docs.google.com/document/d/1VqhB36zGuQIJEVzDMZ2Whn5A4gZ6zAq7UWusOOzTgwQ/edit)

Problems 8-13-21 (https://docs.google.com/document/d/1AyAs2U51tVwqe6E08IvwgaAiXyR0xvcHgRPdm5fcSmY/edit)

Problems 8-10-21 (https://docs.google.com/document/d/1v1-fSVQely7_xFN4BM4bMsPRFvg_4EpR5RNKt6h_Rec/edit)

Problems 8-6-21 (https://docs.google.com/document/d/1AW9983ILnZAH1wgyGfvQcjin7NtI3Hry0DV5ZhLRvZA/edit)

Problems 8-3-21 (https://docs.google.com/document/d/1pt4yRi6E2QNYCT4kFzO660fwdmZ8hoeFLgNt2Xr--t4/edit)

Problems 8-2-21 (https://docs.google.com/document/d/1Ay5evcJ8s49GIlDDqQ2FETMCdqAcITCCJF7XIE-kt14/edit)

Problems 7-30-21 (https://docs.google.com/document/d/1UoQaoH5qVMljT9ERYtgI9CqkwBCLAYddshxnQVgTK8E/edit)

Problems 7-27-21

(https://docs.google.com/document/d/1YxiyIhs_vh3c0Ut7Pudn7mQfckPzCBgqp7qceI3eIOw/edit)

Topics Covered and Textbook Readings

- Topics Covered in Week 1
- Topics Covered in Week 2
- Topics Covered in Week 3
- Topics Covered in Week 4
- Topics Covered in Week 5

Lecture Slides

- Lecture 1 Chapter 9 slides.pdf
- Lecture 2 Chapter 9 slides.pdf
- Lecture 3 Chapter 9 slides.pdf
- Lecture 4 Chapter 9 slides.pdf
- Lecture 5 Chapter 10 slides.pdf
- Lecture 6 Chapter 10 slides.pdf
- Lecture 7 Chapter 10 slides.pdf

- Lecture 8 Chapter 10 slides.pdf
- Lecture 9 Chapter 10 slides.pdf
- Lecture 10 Chapter 11 slides.pdf
- Lecture 12 Chapter 11 slides.pdf
- Lecture 11 Chapter 11 slides.pdf
- Lecture 13 Chapter 11 slides.pdf
- Lecture 14 Chapter 16 slides.pdf
- Lecture 15 Chapter 16 slides.pdf
- Lecture 16 Chapter 16 slides.pdf
- Lecture 18 Chapter 17 slides.pdf
- Lecture 17 Chapter 17 slides.pdf
- Lecture 19 Chapter 17 slides.pdf
- Lecture 20 Chapter 20 slides.pdf

Practice Quizzes and Extra Problems

- Practice Quiz 1 Chapter 9.pdf
- Practice Quiz 1 Chapter 9 Worked Out Solutions.pdf

- Practice Quiz 2 Chapter 10.pdf
- Practice Quiz 2 Chapter 10 notes.pdf
- practice_quizz2_p1-4.pdf
- practice_quiz_2_solutions_5-8.pdf
- Ch 10 quiz additional practice problems.pdf
- Ch 10 quiz additional practice solutions.pdf
- Practice quiz 3 chapter 11 key.pdf
- Practice quiz 3 chapter 11.pdf
- ch11_quizz_1-5.pdf
- practice_quiz_3_solutions_6-10.pdf
- Practice quiz 4 chapter 16.pdf
- Practice quiz 4 chapter 16 key.pdf
- Practice quiz 4 solutions (odd).pdf
- Ch 16 quiz additional practice solutions.pdf
- Practice quiz 5 chapter 17.pdf
- Practice quiz 5 chapter 17 key.pdf

- Practice quiz 5 chapter 17 solutions.pdf
- Practice quiz 6 chapter 20.pdf
- Practice quiz 6 chapter 20 key.pdf
- Practice quiz 6 solutions.pdf
- Chem1C practice final (1).pdf
- final exam worked out solutions.pdf

Formulas and Constants

- Chem+1C+comprehensive+formula+sheet.pdf

Video Quiz Keys

- Video quiz 1-2 correct answers.pdf
- Video quiz 3-4 correct answers.pdf
- Video quiz 5-6 correct answers.pdf
- Video quiz 7-9 correct answers.pdf
- Video quiz 10-11 correct answers.pdf
- Video quiz 12-13 correct answers.pdf

- Video quiz 14-15 answers.pdf
- Video quiz 16-17 correct answers.pdf

Course Overview and WebAssign Support (Start Here)

- Overview of the Course
- Teaching Team Information
- Link to WebAssign to register for the first time
- Cengage Technical Support
- CHEMICAL PRINCIPLES eBook
- Other Tips and Tricks for Cengage and WebAssign
- What is Academic Integrity?
- Statement on Title IX

Basic Information about Summer Session and Remote Learning

- For instructors' eyes only: How to use the Introduction Module
- Start here!
- How summer works

Resources

- How to find help (campus resources)
- Using Canvas
- Using Zoom
- Using YuJa
- Using Hypothesis
- Using Gradescope

Guidelines

- How to succeed in an online/remote course
- Discussion & communication guidelines
- Academic integrity