COURSE SYLLABUS, CHEM 102-005 General Chemistry B (2527)

Summer 2017 (July 5th, 2017-August 11, 2017)

Instructor: Dr. Sergey Maximoff
Office: Flanner Hall 314A
Office Hours: Wednesday and Thursday 11:30 AM-12:00 PM or by appointment
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Class shall meet in Dumbach Hall - Room 230 every Tuesday, Wednesday, Thursday from 8:30 AM to 11:10 AM.

Course overview

This intense general chemistry summer course is a continuation of CHEM101. It will introduce you to the basic physical chemistry of solutions, chemical kinetics, thermodynamics, electrochemistry, and nuclear chemistry. These subjects contribute to the foundation for your future studies in chemistry or other disciplines that depend on chemistry (medicine, forensics, biology, physics, engineering, agriculture, geology, etc.). The course will also help you to gain a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories). It will teach you how to apply course material to improve thinking, problem-solving and decision-making. It will also teach you how to find, evaluate, and use resources to explore the topic in depth. The lectures and textbook will introduce you to basics of chemistry and its applications. Homework and discussions in class will help you learn through practice.

Required course materials

Textbook: *T.L. Brown et al., Chemistry the Central Science 13th edition.*

Online homework and study system: *MasteringChemistry.* You will need to enter Course ID: MCMAXIMOFF82541. You will also require access to the Internet, a compatible computer, and software to be able to use MasteringChemistry.

Laptops: You will also need to bring to class laptops that are capable of accessing and running MasteringChemistry on the LUC network. You may also need to use your laptops in class to access other material relevant to the course. Laptops can be used in class only at times and only in the manner authorized by the instructor.

SAKAI access: Course-related announcements will be posted on *SAKAI*. You will need access to sakai.luc.edu.

Miscellaneous items: *A scientific calculator that cannot store text, notepad, pencils, pens, erasers*.

Prerequisites

CHEM101 or CHEM105 and MATH118 or equivalent completed with a grade no worse than C-.

Lectures

We will cover 8 chapters of T.L. Brown et al., Chemistry the Central Science. Reading assigned sections of the textbook before and after lectures will help you move through the course more smoothly. Lectures may deviate from the textbook.

Homework

Homework sets (one set for each chapter of the textbook) are posted in MasteringChemistry early on in a given chapter and are due as indicated in the course calendar.

If you are not experienced with MasteringChemistry, you are strongly encouraged to complete a practice tutorial. This tutorial explains how to use MasteringChemistry. It will not be graded.

The primary purpose of homework is to give you an opportunity to learn through practice. The chances of your success in the course will be much higher if you complete all homework assignments and make sure you understand the material.

Different people have different learning styles. It is irrelevant how you learn from homework. It is very relevant, however, that homework answers reflect your own command of the material.

It is a good idea to work on homework incrementally and not wait until it is due.

Your performance on homework problem sets will constitute 15% of your course grade.

See the grading policy posted at MasteringChemistry for details regarding grading of individual homework sets.

Discussions

We will have discussions in class after we finish a chapter. You will have an opportunity to collaborate on a problem with your fellow students in small groups while I provide interactive feedback. Discussion points are awarded after students both actively participate in class and solve problems in discussion sheets.

Discussion participation grades will constitute 5% of your course grade.

Two lowest discussion grades will be dropped.

Reading Quizzes

Thorough and timely familiarity with the textbook and lecture material is essential for your success in this class. We will have occasional closed-book short reading quizzes that test your knowledge of the textbook and lecture material covered. You will need your laptops running MasteringChemistry to participate in quizzes in class.

Your average performance on reading quizzes will constitute 5% of your course grade.

No make-up reading quizzes will be arranged. However, two lowest grades for quizzes will be dropped.

Exams

There will be a total of five in-class exams for this course. There will be three 90-minute long midterm in-class exams at the beginning of classes on Tuesday 7/18 (Exam I), Tuesday 7/25 (Exam II), and Thursday 8/3 (Exam III). The fourth midterm and fifth final cumulative exam will be administered as a single two-part three-hour long exam, which will be held on Thursday 8/10. Please arrive on time.

No make-up exams for the midterms exams I-IV will be arranged. However, the lowest grade for the midterm exams I-IV will be dropped. For example, if you miss a single midterm exam, you grade for that exam would be zero, which will be dropped. However, you will not be able to drop grades for the remaining three exams in this scenario even if one of those grades happens to be lower than you would like. Thus, it is a safer for you to take all four exams if you can.

The average of three highest scores for the midterm exams I-IV will constitute 54% of your course grade.

The final exam (Exam V) is mandatory for passing the course. If you miss the scheduled final exam for a valid reason, you are responsible for arranging for a make-up exam. You will have to file a written request for the make-up final exam (including valid documents that justify your absence at the scheduled final exam) with your dean's office. Upon receiving approval directly from the dean's office, a make-up final exam will be administered at the time and date agreed upon by the dean's office.

The final cumulative exam V will contribute 21% to your total score for the course.

Exams are here primarily to assess your command of the material rather than to provide learning opportunities. Exams must be your work and only your work. Students may not communicate with each other or with the outside world during the exam. Use of any printed, electronic, or any other kind of informational resources or aids other than those explicitly provided or authorized by the instructor is strictly prohibited during exams. A simple scientific calculator will be needed. Cell phones, computers, complex calculators (such as those that can store text or can graph) are not proper calculators for the exams. It is your responsibility to have a proper calculator during exams and know how to use it. Calculators cannot be shared during the exam. Calculator covers must be removed and stored away. I will not be able to provide calculators.

Honor code

Academic integrity is essential (see the university policy document http://luc.edu/media/lucedu/cas/pdfs/academicintegrity.pdf). Policy violators will be referred to the university administration for possible disciplinary action. In addition, cheating will result in an non-droppable null for the assignment in question as well as a deduction of two grade points from the course grade (e.g., if it were an A, it would become a C). Cheating at the final exam will result in an F for the course.

Grading Scale

A 88-100%; B 78-87%; C 68-77%; D 60-67%; F 0-60%. Plus or minus suffix is assigned to the letter grades linearly within these ranges.

Miscellaneous

Students who drop the co-req lecture must be receiving a grade of D or better in the lecture in order to continue in the co-req lab. If you need tutoring help, please visit www.luc.edu/tutoring for further information. Photography, video, and audio recording are prohibited in class.

Accommodation requests

If you require accommodations, please apply for accommodations through Services for Students with Disabilities (their website is http://www.luc.edu/sswd/) at your earliest convenience. Accommodations will be provided as soon as feasible after I receive formal instructions from SSWD.

Tentative course calendar

Wednesday 7/5	Introduction to the course. Chapter 13: Properties of Solutions (3/3).	
Thursday 7/6	Chapter 13: Properties of Solutions (1/3). Chapter 14: Chemical Kinetics (2/3).	
Saturday 7/8	Homework Set for Chapter 13.	Due by 11:59 PM online
Tuesday 7/11	Chapter 14: Chemical Kinetics (3/3).	
Wednesday 7/12	Chapter 15: Chemical Equilibrium (3/3).	
Thursday 7/13	Chapter 15: Chemical Equilibrium (2/3). Chapter 16: Acid-Base Equilibria (1/3).	
Thursday 7/13	Homework Set for Chapter 14.	Due by 11.59 PM online
Saturday 7/15	Homework Set for Chapter 15.	Due by 11:59 PM online
Tuesday 7/18	**Exam I (Mostly Chapter 13 and 14).** Chapter 16: Acid-Base Equilibria (1/3).	Arrive on time!
Wednesday 7/19	Chapter 16: Acid-Base Equilibria (3/3).	
Thursday 7/20	Chapter 16: Acid-Base Equilibria (1/3). Chapter 17: Additional Aspects of Aqueous Equilibria (2/3).	
Saturday 7/22	Homework Set for Chapter 16.	Due by 11:59 PM online
Tuesday 7/25	**Exam II (Mostly Chapters 15 and 16).** Chapter 17: Additional Aspects of Aqueous Equilibria (1/3).	Arrive on time!
Wednesday 7/26	Chapter 17: Additional Aspects of Aqueous Equilibria (3/3).	
Thursday 7/27	Chapter 17: Additional Aspects of Aqueous Equilibria (1/3). Chapter 19: Chemical Thermodynamics (2/3).	
Saturday 7/29	Homework Set for Chapter 17.	Due by 11:59 PM online
Tuesday 8/1	Chapter 19: Chemical Thermodynamics (3/3).	
Wednesday 8/2	Chapter 20: Electrochemistry (3/3).	
Wednesday 8/2	Homework Set for Chapter 19.	Due by 11:59 PM online
Thursday 8/3	**Exam III (Mostly Chapters 17 and 19).** Chapter 20: Electrochemistry (1/3).	Arrive on time!
Tuesday 8/8	Chapter 20: Electrochemistry (1/3). Chapter 21: Nuclear Chemistry (2/3).	
Wednesday 8/9	Chapter 21: Nuclear Chemistry (3/3).	
Wednesday 8/9	Homework Set for Chapter 20.	Due by 11:59 PM online
Thursday 8/10	**Exams IV (Mostly Chapters 20 and 21); Exam V.**	Arrive on time!
Friday 8/11	Homework Set for Chapter 21.	Due by 11:59 PM online