

## **COURSE SYLLABUS, GENERAL CHEMISTRY CHEM 101-003 (1481)**

*Summer 2016 (May 23, 2016-Jul 1, 2016)*

**Instructor:** Dr. Sergey Maximoff  
**Office:** Flanner Hall 314A  
**Office Hours:** Wednesday and Thursday 2-3PM or by appointment  
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*Class shall meet in Dumbach Hall - Room 122 every Tuesday, Wednesday, Thursday from 3:35PM to 6:15PM*

### **Course overview**

This intense introductory summer course will provide a foundation for your future studies in chemistry or other disciplines that depend on chemistry (medicine, forensics, biology, physics, engineering, agriculture, geology, etc.). It will also help you to learn how to think critically as a scientist and to understand how chemistry can be used to improve both our environment and our lives. The lectures and textbook will introduce you to basics of chemistry and its applications. Homework and discussion in class will help you to learn through practice.

### **Required Course materials**

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

**Online homework and study system:** *MasteringChemistry.* You will need to enter Course ID: MAXIMOFFCHEM101SUM16. You will also need access to the internet, a compatible computer and software to be able to use MasteringChemistry.

**SAKAI access:** Course-related announcements will be posted on *SAKAI*. You will need access to [sakai.luc.edu](http://sakai.luc.edu).

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

### **Lectures**

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

### **Homework**

Unless noted otherwise, two homework sets (one set for each chapter of the textbook) are posted in MasteringChemistry early in the week every week and are due on Friday and the following Monday on-line at 11:59PM.

Before completing the first homework, you are strongly encouraged to complete a practice tutorial, which will be assigned. 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 totally 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 do not wait until it is due. As we cover the material in class, I will let you know which homework problems are ready for you to attack.

***Your performance on homework problem sets will contribute 20% to your total score for the course.***

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

### Discussions

This is a small class. We will have discussions during class from time to time. You will have an opportunity to collaborate on a problem with your fellow students in small groups (or work individually if you choose so) while I provide interactive feedback.

***Discussion grades will contribute 5% to your total score for the course.***

Discussion points are awarded after students make a good faith attempt to solve a problem in class.

A single lowest discussion grade will be dropped automatically for everyone.

### Exams

There will be a total of five in-class exams for this course. There will be four hour-long cumulative midterm in-class exams at the beginning of Tuesday classes on 5/31 (Exam I), 6/07 (Exam II), 6/14 (Exam III), and 6/21 (Exam IV). The fifth, three-hour long final cumulative exam will be held on Thursday 6/30 (Exam V). 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 automatically for everyone. For example, if you miss a single midterm exam, your grade for that exam would be null and this grade of null 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 bet for you to take all four exams if you can.

***The three highest scores for the midterm exams I-IV will contribute a total of 51% to your total score for the course.***

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 24% to your total score for the course.***

Unlike homework problems or discussions, exams are here 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 or stored in your mind 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 undroppable 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.

### **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

Tuesday 5/24	Introduction to the course. Chapter 1: Matter, Measurements.	
Wednesday 5/25	Chapter 1: Matter, Measurements. Chapter 2: Atoms, molecules, ions.	
Thursday 5/26	Chapter 2: Atoms, molecules, ions.	
Friday 5/27	Homework Set 1.	Due by 11:59PM online
Tuesday 5/31	Homework Set 2.	Due by <b>2:00PM</b> online
Tuesday 5/31		
Tuesday 5/31	<b>Exam I.</b> Chapter 3: Chemical Reactions and Reaction Stoichiometry.	Arrive on time!
Wednesday 6/01	Chapter 3: Chemical Reactions and Reaction Stoichiometry. Chapter 4: Reactions in Aqueous Solution.	
Thursday 6/02	Chapter 4: Reactions in Aqueous Solution.	
Friday 6/03	Homework Set 3.	Due by 11:59PM online
Monday 6/06	Homework Set 4.	Due by 11:59PM online
Tuesday 6/07	<b>Exam II.</b> Chapter 5: Thermochemistry.	Arrive on time!
Wednesday 6/08	Chapter 5: Thermochemistry. Chapter 6: Electronic Structure of the Atom.	
Thursday 6/09	Chapter 6: Electronic Structure of Atom.	
Friday 6/10	Homework Set 5.	Due by 11:59PM online
Monday 6/13	Homework Set 6.	Due by 11:59PM online
Tuesday 6/14	<b>Exam III.</b> Chapter 7: Periodic Properties of Elements.	Arrive on time!
Wednesday 6/15	Chapter 7: Periodic Properties of Elements. Chapter 8: Basics of Chemical Bonding.	
Thursday 6/16	Chapter 8: Basic of Chemical Bonding.	
Friday 6/17	Homework Set 7.	Due by 11:59PM online
Monday 6/20	Homework Set 8.	Due by 11:59PM online
Tuesday 6/21	<b>Exam IV.</b> Chapter 9: Molecular Geometry and Bonding Theories.	Arrive on time!
Wednesday 6/22	Chapter 9: Molecular Geometry and Bonding Theories. Chapter 10: Gases.	
Thursday 6/23	Chapter 10: Gases.	
Friday 6/24	Homework Set 9.	Due by 11:59PM online
Monday 6/27	Homework Set 10.	Due by 11:59PM online
Tuesday 6/28	Chapter 11: Liquids and Intermolecular Forces.	
Wednesday 6/29	Chapter 11: Liquids and Intermolecular Forces. Course Review.	
Thursday 6/30	<b>Final Exam.</b>	Arrive on time!